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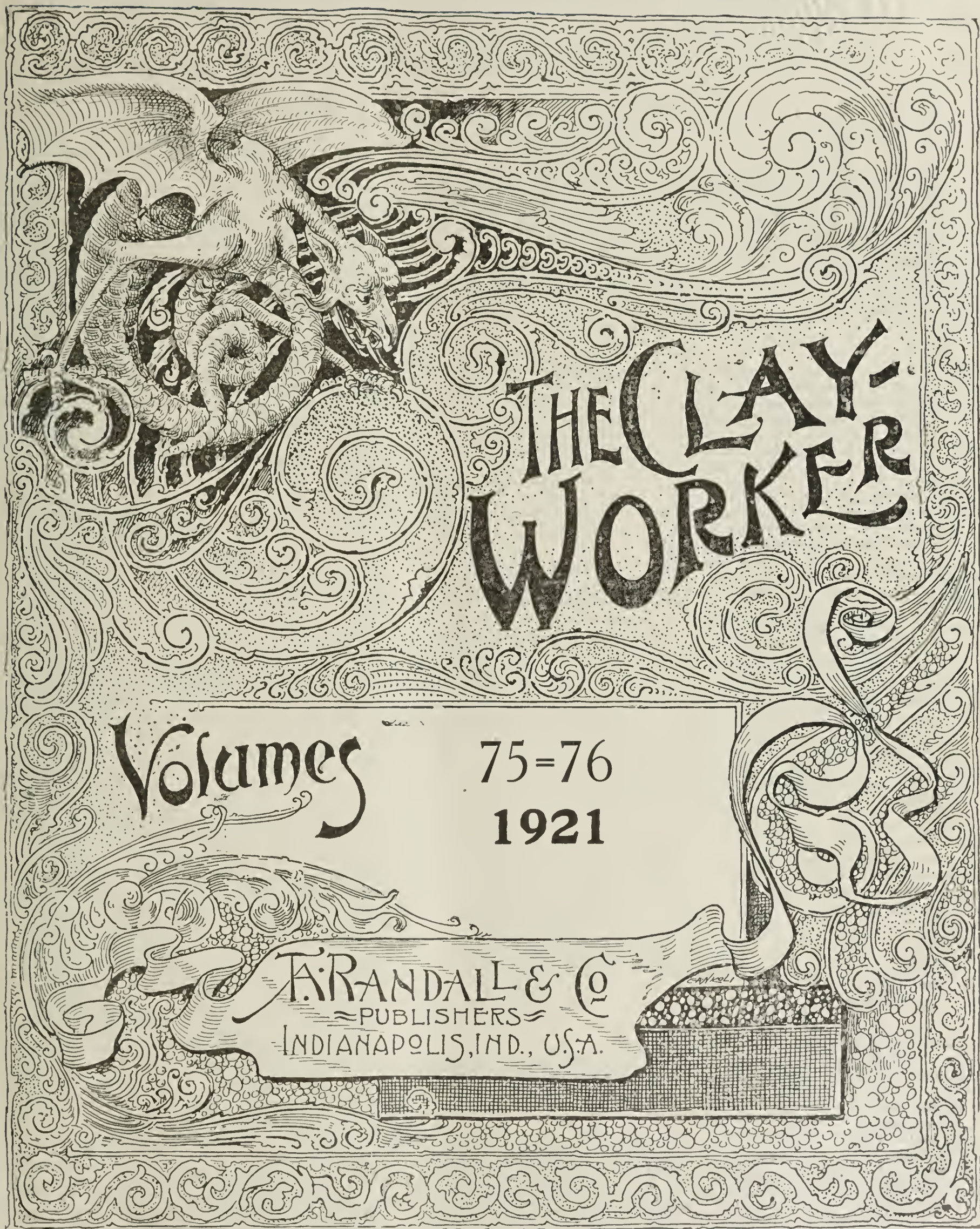
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FROM JANUARY TO JUNE, 1921

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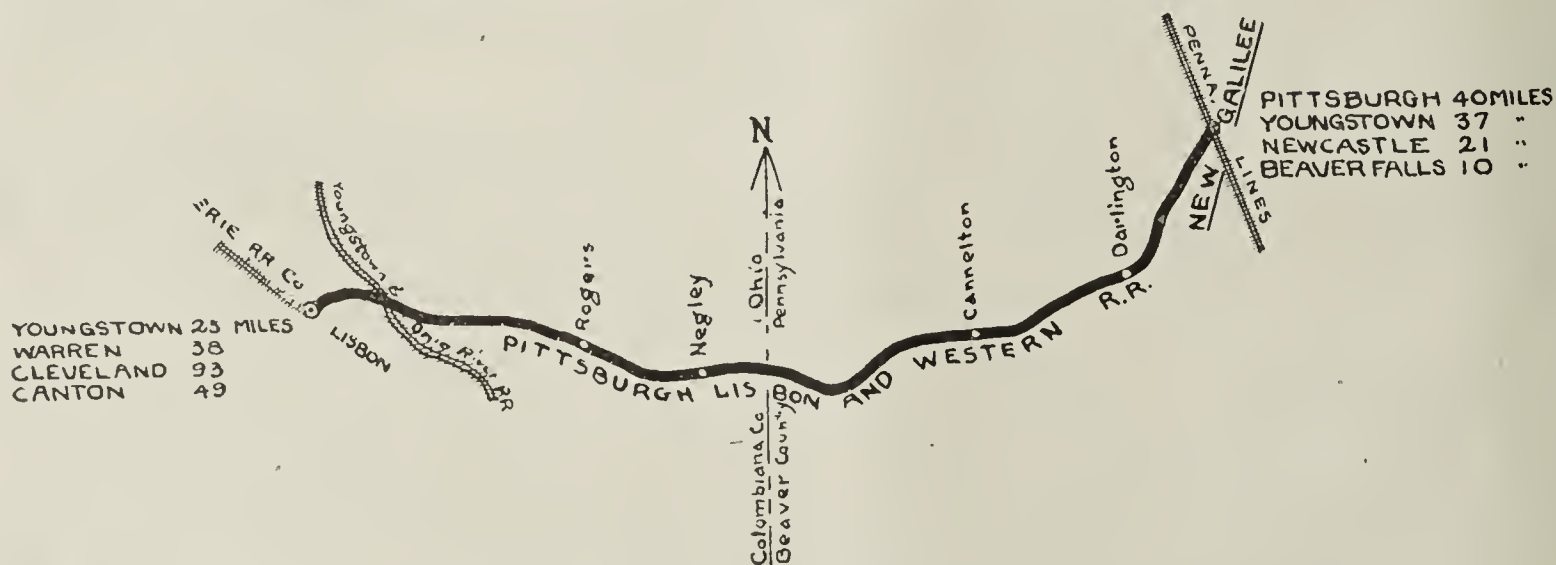
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Official Organ

of the

N. B. M. A.

**HOTEL PENNSYLVANIA**  
OFFICIAL HEADQUARTERS  
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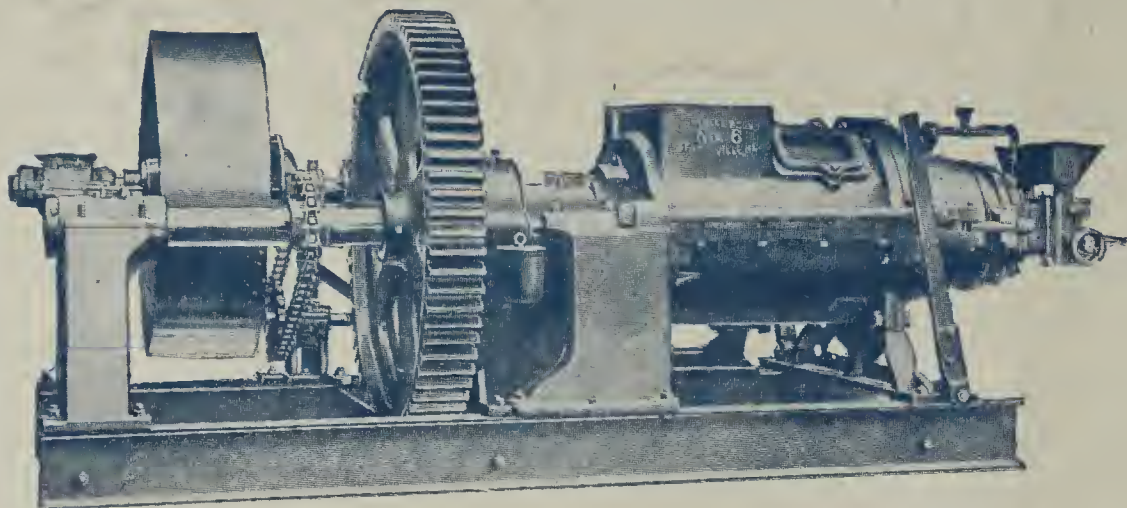
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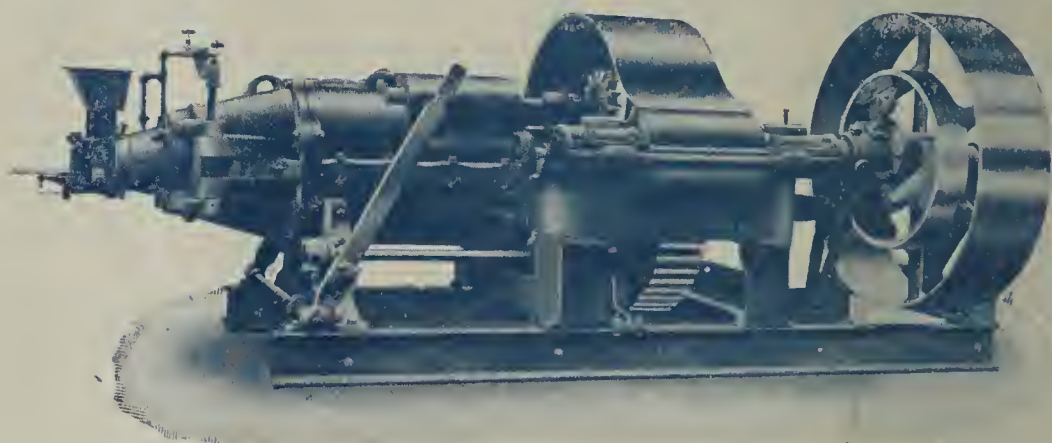
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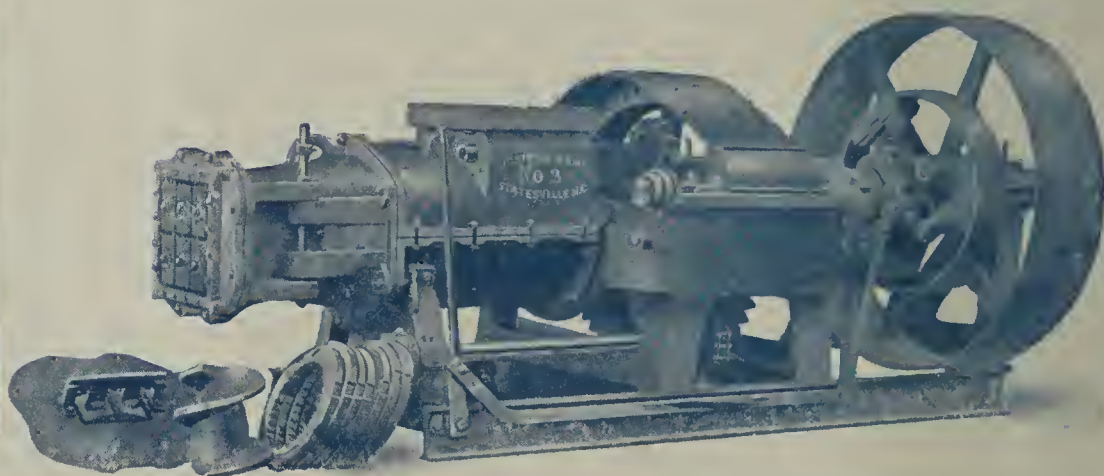


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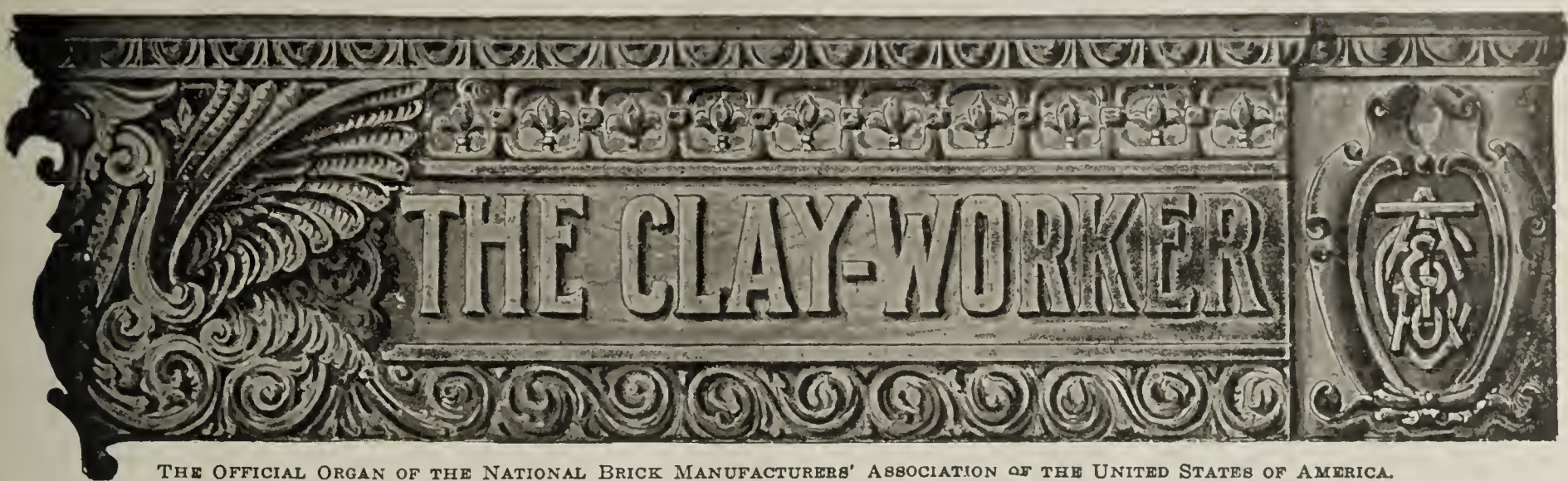
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THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 75

INDIANAPOLIS, JANUARY, 1921.

No. 1

**THE CONVENTION CITY:** The World's Greatest City "Where Men Do Things." Some of the Many Interesting Features that Make it Attractive to Young and Old. From the Statue of Liberty to the New York Central Park it Embraces More of Natural Interest to Human Kind Both for Business and for Pleasure Than Any Other Place in the World. ❀ ❀ ❀

**T**HE METROPOLIS. Everybody wants to know New York. From the time when mother used to let us have the picture paper to keep us quiet, up to yesterday when neighbor Brown, just back, told us of the new automobile fire engine he saw on Fourteenth Street, we have wanted to see these things ourselves. Popular songs have dinned Broadway and the Bowery to our ears. Newspapers, books, and magazines have made the names of Gotham all familiar. We teach New York to our children every year. The country expects it. Every nation thinks the same way

regarding its chief city. You feel you would like your information first-hand. Inherently, we are all geographical explorers. Every active-minded American expects at the first convenient opportunity to see New York again or for the first time. The National Brick Manufacturers' Association presents the opportunity now, coupled with unusual attractions of good company, cordial welcome, and especial attention to the guests.

What ought you to see as a part of your liberal education? The review of this list of features is interesting to



A Portion of the Main Lobby of the Pennsylvania Hotel, Where Clayworkers will Assemble in Annual Convention January 31 to February 5, 1921.



every man and woman whether of Pennsylvania or of the Philippines, for New York is America in all its aspects; social, industrial, literary, artistic, and religious.

**The Harbor.** This settled the site: It made the city. No port in the world surpasses it. Daily excursion steamers carry sightseers out through its wide portals to the open sea. Others encircle Manhattan Island each morning and afternoon, affording a near-by view of a varied and enormous commerce. Here you will see superb Atlantic liners, little hay-boats from Quebec, canalers from Buffalo. East India-

dria have their broad rivers; Constantinople possesses her long, calm water shore; but New York combines these advantages of river, bay, protected wharves, and extended coastline with a beauty of landscape all her own and the admiration of the world. Seen from her highest roofs the blue Atlantic forms her horizon. Stretching to the north, the lordly Hudson, and to the east, Long Island Sound, bring native fleets to mingle with the commerce of foreign nations. East River is an American Bosphorus. The Hudson with its extension, the Erie, Oswego and Champlain Canals, forms



New York City Hall, the Seat of Municipal Government.

men, Hudson ice-barges with their quaint windmills, busy ferries, lighters, floating elevators, and gondolas loaded with trains of cars. Bartholdi's Liberty, the immigrants' landing place on Ellis Island, the forts, the piers, the islands, the five great bridges, the subterranean tunnels, Grant's tomb, the huge Bush Terminal, the Palisades and a hundred famous and interesting things present themselves to your sight in and around the cause and center of New York's prosperity, her harbor. No great city is so happily placed with reference to the sea and navigable rivers. Yokohama and Rio have beautiful, hillgirt basins; New Orleans, Shanghai and Alexan-

a waterway richer in commerce than the Mississippi or the Hoang Ho. The meeting, here, of internal and external trade gave New York her start in the commerce world and has made her, counting the adjacent suburbs wholly dependent upon her, the largest city in the world.

**Getting About.** The city has many entrances, but wherever your boat or train sets you down, you will find lines of electric cars communicating to all important districts. It is well to remember that in Manhattan the avenues run north and south, and that, except for the lower part of the island, the streets are numbered and run east and west.





Broadway Canyon, the Famous Trinity Church on the Left, and the Wonderful Woolworth Building in the Background.



Broadway from the southermost tip of the island runs the whole length of it and is the principal thoroughfare. Fifth Avenue decides the numbering of houses on the cross streets. Thus: 10 East 41st Street is east, and 10 West 41st Street is west, of Fifth Avenue. Four elevated railways start at the Battery, all running northward. Elevated lines permeating Brooklyn start from New York City Hall. Two subway lines enter Manhattan from the north, uniting at 96th Street, traversing the whole island, and extending to Brooklyn. Another Brooklyn subway begins at City Hall Park—Manhattan. Two subways run to New Jersey. A bus line with outside seats goes from Washington Square up Fifth Avenue with extensions along Riverside Drive and through residential districts. Electric surface lines ramify through all five boroughs. The compact district south of the N. E. A. headquarters and comprising most of the historic features of the city is within the easy walking powers of the ordinary visitors. Sightseeing busses cover regular circuits. The three hundred and nine square miles of city embracing its boroughs of Brooklyn, Manhattan, Bronx, Queens and Richmond, extending 30 miles from tip to tip, are served by transportation lines upon such simple systems that no one need be lost in New York.

**The Public Buildings.** Seeing New York means, among other things, getting a view of its seats of municipal service. No one would return home without a knowledge of these famous buildings. City Hall, long since outgrown by the size and number of its municipal departments, lies in what was once the Common, a pasture of the old Dutch farmers. Built in 1804, from plans in imitation of Inigo Jones' designs of Whitehall Palace, it stands today unsurpassed for beauty of proportion and purity of design by any public building in America. The Municipal Building, headquarters of most of the city offices, is one of the wonders of the modern architectural world. Everybody wants to see the public library, the public baths, the Metropolitan Museum, the National Navy Yard, the Postoffice, the custom house, the Armories, the Museum of Natural History, the Hispanic Museum, the Children's Museum in Brooklyn, the Aquarium, police headquarters, the Brooklyn Institute of Arts and Sciences, old Trinity Church, the two cathedrals and Greenwood Cemetery. Grand Central Station and the Pennsylvania Terminal must not be missed. Their position and beauty class them among the municipal monuments of the world. Van Cortlandt Mansion, Frances' Tavern and the Jumel House attract the student of history.

**The Sky Scrapers.** Few sights of the city excite more wonder and admiration than the towering business structures that have been evolved because of the insular confinement of the city's trade to narrow areas compelling the most economical use of every foot of available land. Within a surprisingly short distance of one another the visitor may see the Singer Building, the Equitable, the Hudson Terminals, the World, the Tribune, the Woolworth, the Flatiron, the Metropolitan, Tower, Wanamaker's, Altman's, Stern's, Macy's, the Times, and scores of others well known by names to most Americans. Who has not heard of Delmonico's and Sherry's, the Waldorf, the Astor, the Biltmore, the Ritz-Carlton, the McAlpin, the Metropolitan Opera House and the Hippodrome? Sightseeing automobiles, each with lecturers aboard, make hourly trips through the best known business and residential quarters, while the out-door busses carry the traveler through the most famous streets of the town.

**The Parks.** In the heart of Manhattan, you find America's most famous breathing spot, Central Park. Beautified with lakes and waterways, adorned with famous statues, enlivened with curious living animals, and possessing every variety of domestic and foreign tree that will grow in the temperate zone. Bronx, Van Cortlandt, Pelham Bay, Riverside and

Prospect Parks, lie within, at most, ten cents' cost of transportation by electric trains from the business center. Each park has its peculiar charm of meadow, rocky heights, winding river, or broad expanse of bay and island. On the Jersey shore, accessible by frequent ferry, lies the new Interstate Palisade Park, while farther up the Hudson, reached by a delightful sail, the great Bear Mountain Park, the National Reservation at West Point, Washington's headquarters at Newburgh and Vassar College at Poughkeepsie, attract those who have a full day to spare for the outing.

**Churches.** You will wish to see St. Paul's Chapel, on lower Broadway, where lie remains of heroes of the Revolution. Trinity Church is near by, one of the handsomest specimens of Gothic architecture in this hemisphere. Hamilton is buried in the yard. Here is the Martyr's Monument in memory of the soldiers who died in British prisons. Lawrence of the Chesapeake lies near it with his last words, "Don't give up the ship," emblazoned on the stone. Up Broadway at the turn of the road the spire of the Grace Church stands. A beautiful upward-line pointing finger in the summer haze. Old St. George's is a short walk away. St. Mark's, five minutes distant, covers the site of Peter Stuyvesant's Chapel. The church was called "St. Marks in the Fields," so far was it to the north of occupied land. Now there are 15 miles of almost solid blocks of buildings extending northward from it. While to the south no vacant spot appears. You will want to visit the "Little Church Around the Corner" and the famous "Fifth Avenue Presbyterian." "Dr. Parkhurst's Church" stands upon Madison Square; St. Patrick's Cathedral on Fifth Avenue; the Brick Church on Murray Hill; "All Souls" is on Fourth Avenue; the Friend's Meeting House on Stuyvesant Square; Temple Emanuel on 43rd Street and Fifth Avenue. The Cathedral of St. John the Divine, now building, tops the heights near Columbia University. You should see Bible House on Third Avenue, erected in 1852. The United Charities Building on Fourth Avenue and the great religious book concerns on lower Fifth Avenue. The Young Men's and the Young Women's Christian Association Buildings in various portions of the city, in all boroughs, never fail to repay a visit by their demonstration of what a modern educational, social, recreational, and religious headquarters is in the early twentieth century. Numerous church houses of all denominations, the university, the college, and the nurses, and twenty other settlements, the Educational Alliance, the Neighborhood Playhouse and similar institutions are strikingly interesting in their equipment for social service.

**The Clubs.** Born in great numbers of the congestion of modern cities, clubs represent in New York so important a factor in life that your stay in the metropolis will impress with their number and importance. The famous Union League stands on Fifth Avenue and 39th Street. It is the center of republicanism and the parent of other union leagues in various cities. The Manhattan Club, of Democratic statesmen, stands on Fourth and 26th Street. In your goings to and fro, you will see the staid old Century, the imposing University Club, the Lotus, the Players, the National Arts, the quaint little Salmagundi, the Arion, the Liederkrantz, the Harmonic, the Yale, the Harvard, a dozen Greek letter clubs, each composed of those who were members of the corresponding fraternity when in college. The Woman's University Club is on 52nd Street off Fifth Avenue.

**For the Lover of Quaint History.** This can give you the merest taste of the memory that link New York to the past life of the nation. Wherever you walk, statues, monuments and tablets will recall some of service or glory in the country's growth. In St. Paul's you will see where Washington sat each Sunday. On Wall Street you may stand where the feet of the fathers pressed the earth as the first President of the Republic took the oath. Near by, in the old



John Street Church, Whitefield "Preached like a lion." In Bowling Green the sons of liberty pulled down a leaden king and moulded him into patriotic bullets. Here Peter Stuyvesant surrendered. In John Street was the battle of Golden Hill that shed the first American blood in the war of the Revolution. In Battle Pass, Prospect Park, Brooklyn, the hardest fighting in the battle of Long Island was done. With any of the little guide books obtainable in New York book stores, you can, upon the very spot, bring back the life of the old colony days. It makes almost every street, up or across this famous old city, paths of patriotism and glory.

**Shopping.** One may learn a great deal by visits to the

stores are well worth a visit. Best's children's store, Schwartz's toy bazaar, the curio shops of Fourth Avenue and nearby streets are too unique to miss. Fulton Market, a city sight in grandfather's day, is still a source from which you can draw material for good fish stories for the delight of friends at home.

**Seeing Life.** As almost every city gives us distinctive impressions flavoring our memories of it, New York, a cosmopolitan, gives the visitor many, if he takes the trouble to walk through its characteristic quarters. Grand and Rivington Streets, show you the densest congregation of humanity; Mott Street is the center of China Town. The Bowery, famous old parkway of early magnates, supports a busy line



Fifth Avenue, the Busiest Thoroughfare on Earth. More Automobiles Pass Here Within a Given Time Than on Any Other Street at Home or Abroad.

retail stores of Manhattan and Brooklyn. Abraham and Straus of the latter borough, and Loeser's, near it, both reached directly by electric trains of the subway, do a national business. On Manhattan there is Wanamakers, with its theater, restaurant, "house beautiful," and art gallery. Vantine's and Yamanaka's are famous for oriental displays. Tiffany's is the great mart of jewels and bric-a-brac. Altman's, Lord and Taylor's, Arnold and Constable's, Bonwit & Teller's, Macy's, Gimbles', Sack's and Sterns' are show places of unfailing interest. The Fifth Avenue art dealers, Durant-Ruel, Duveen, Knoedler, Macbeth. Goupil, Keppel, Montross, and Wunderlich, maintain galleries of pictures free to the public. Brentano's, Scribners', Putnam's and other great book

of merchandising full of interest. Wall Street is lined with lofty offices bearing names well known the wide world over. Maiden Lane is the jewelers' avenue. Bowling Green harbors the steamship offices. West Street and South Street face the largest piers. Lower Broadway is the wholesale center; lower Fourth Avenue the silk district. Broadway and adjoining streets from 30th to 59th Streets hold most of the theatres and is "the Great White Way" when the lights are lit. Broadway from 50th to 65th Streets abounds with showrooms for automobiles.

In the old days it was a favorite amusement of writers who described the metropolis for the country reader to depict in lurid colors the vice and crime of this great wicked city.



Visitors were warned not to go alone into its shady purlieus. This fantastic fog lingers in the minds of some who do not know New York. Forget the myth. You are as safe from wickedness and danger as you are at home. The New Yorker works in the daytime and sleeps at night. The life is cleaner, steadier and more respectable than most cities anywhere on earth. Twenty thousand public school teachers, several thousand more in other schools, abounding churches, countless societies for social welfare, and honest and efficient city governments, and an industrious population mean and make a home-town, clean, safe and sane. This is the real New York.

**Eating.** A city that calls almost all of its workers too far away from home to go back for the mid-day meal naturally abounds in restaurants of all sorts. After two or three trials you can tell a good refectory by looking through the window. There are three companies which maintain their modern priced eating rooms, in large numbers scattered about the city. One of these horns of plenty can be found within ten minutes' walk of wherever you are likely to be. Besides these, there are dairy lunches, physical culture restaurants, chop houses, rotisseries, German bakeries, French pastry places, tea rooms, quick lunches, buffets, where one may dine well without robbery. There are Hungarian, Greek, Italian and Chinese restaurants without number, good table d'hotes. There are self-serving cafeterias for the promotion of honesty in which you eat as you like and tell the lady at the door what your bill amounts to. There are automats that deliver to you hot and cold sustenance daintily prepared which pops out of glass doors on your deposit of a small coin. There are dining rooms in which you may easily deliver from four to ten dollars for a moderate dinner for yourself and friend. The branch offices of the department of the interior are so many, and so near together, that provisions for the inner man may not concern you. A trial or two makes you a metropolitan expert in the selection of places where your money's worth is delivered quickly, neatly and in appetizing form.

TEXAS BRICK COMPANY HOLD ANNUAL CONVENTION OF REPRESENTATIVES.

The representatives of the Acme Brick Company, of Fort Worth, Texas, held their second annual convention at Fort Worth December 17 and 18, which was attended by nearly fifty enthusiastic brick boosters. Not only Texas, but Oklahoma, Louisiana, and Arkansas were represented. The convention opened with an informal meeting at the offices of the company at 9:30 o'clock Friday morning, after which the entire party was taken on a sight-seeing trip over the city, automobiles being provided for all, which ended at the Elk's Club, where lunch was served. At 1:30 the meeting was called to order by W. R. Bennett, president of the company, who welcomed the visitors in a characteristic address. J. E. Fender, secretary, read a paper entitled, "Conventions"; Jennings Vandaveer talked on "Salesmen's Troubles"; Roy G. Smith, "Manufacturing a Quality Product," and C. O. Bedell, "Quality Advertising." All of the papers were thoroughly discussed. In the evening the annual banquet was held, which was followed by a theater party, and at 11 o'clock everyone followed their leader to the Lake Worth Club House, where a rabbit supper was served. If there is anything in the old saying that the way to keep a man good natured is to feed him, the Acme representatives must have been in rare good humor during their entire stay in Fort Worth.

Saturday, the second day of the meeting, the delegation was taken to the Denton plant of the company, stopping en route to the station to have "Ham and Eggs" at 6:30 a. m. After spending the morning inspecting the plant lunch was served at Hotel Price, Denton, and the party headed for Fort Worth again, where they partook of a farewell dinner at 6 o'clock.

WHAT OF THE NEW YEAR?

Interesting Views of Leading Men in Business World Today Show Decided Feeling of Optimism.

RESIDENTIAL election years have always shown a depression in the clayworking industry. A glance at the statistics gathered by the United States Geological Survey extending over the past twenty years, shows plainly this one big fact. In the chart published on this page you will note that clay products in 1904 dropped below that of 1903 in value of production. In 1908, the next presidential year, occurred the greatest depression of all the twenty years. Just preceding the presidential election in 1912, we had another decline in valuation of production with a slight recovery during 1912. For two years, 1914 and 1915, another sharp decline is noted, the greatest depression being in the year preceding the presidential election, after which a remarkable increase in valuation of production occurred reaching the climax in 1917, just before the greatest period of depression

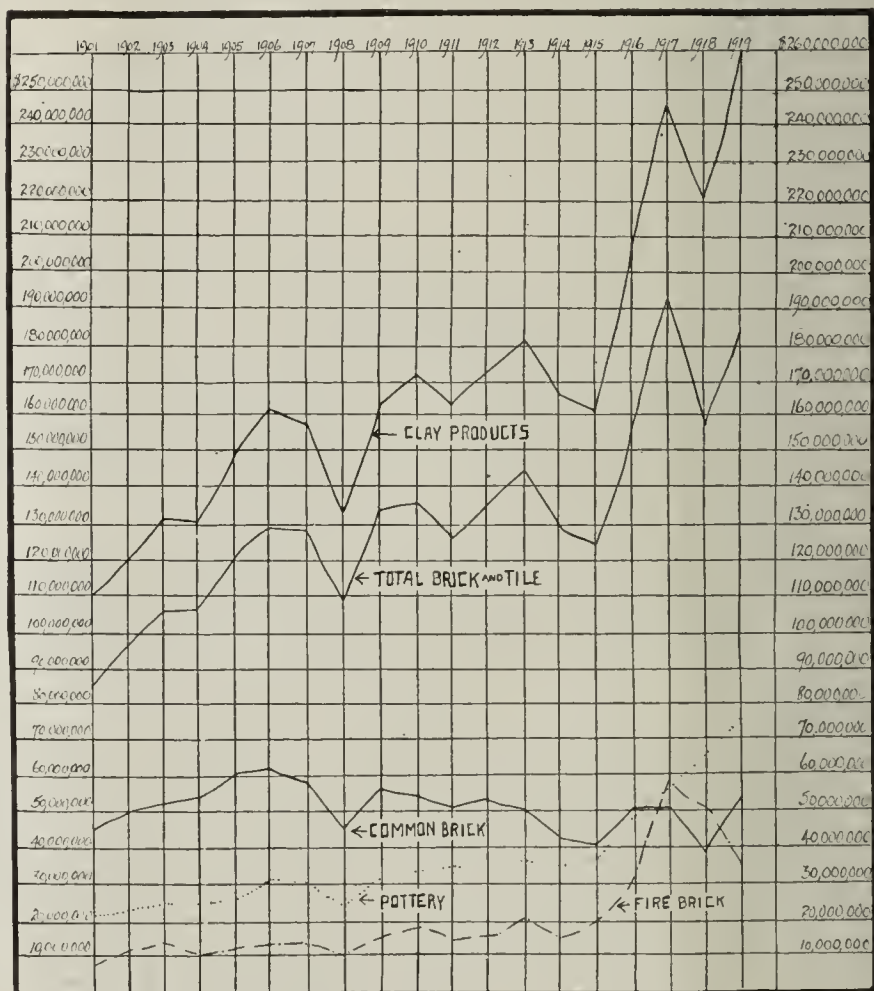


Chart Showing Value of Production in Clay Products From Year 1901 to 1920.

due to the war restriction brought another decline reaching its lowest point in 1918. Then after the signing of the armistice we note there was a most rapid recovery and the valuation mounted up to unheard of figures. So we see with only a little variation presidential years have always shown a depression in the clay industry, with a rapid recovery in the years following. So, if history repeats itself, 1921 will show a big increase in valuation of production.

There are many fundamentally good reasons for looking forward to an unusually healthy prosperous era in the clay industry and these are not based simply on the "wish is father to the thought" theory.

The press of the country in general shows a decided spirit of optimism and the analysis put forward is based on reasoning in almost every particular case which seems very logical to the average reader.

A summary of public opinion is given in the Literary Digest, issue of January 8th, under the caption, "When Will



Good Times Return?" We especially refer our readers to this splendid treatise and recommend the careful reading of same.

We briefly quote the striking statements from leading men and business concerns which show that the general belief is that a big building era is just in the offing:

"\* \* \* The health of the American people is splendid; faith in the stability of the country is strong; the spirit of enterprise in influential circles is undaunted. Our resources are illimitable, and, of more moment at this time, we are within sight of adequate capital to develop them, more efficient labor to handle them, better railroad facilities to transport them, more American ships to carry them overseas, and a steady recuperating world to buy our surplus."

—B. C. Forbes.

"\* \* \* Any American blest with reasonable health who insists on taking his own troubles seriously should be sentenced to six months in Europe, where there are real troubles and where life itself is a daily battle for mere existence."

—The World.

"\* \* \* The prediction that money-rates will be much easier in 1921 is based by the certainty that both the farmer and the retailer will have to pay off loans in larger amounts during the coming months and that loan requirements in 1921 will be conspicuously smaller."

—Alexander Hamilton Institute.

"\* \* \* All agree in a general expectation that the industrial depression accompanying the process of deflation will last into the spring, but that a revival is due to begin by March or April."

—The Nation.

"\* \* \* We are near the bottom of the depression, or will be in the next thirty days."

—A. W. Douglas, U. S. Chamber of Commerce.

"\* \* \* That the current industrial depression will end in February."

—Banking and brokerage firm of Hornblower and Weeks.

"\* \* \* The end of the business depression will come in February or March and from then on for a period of two or three months business will improve slowly and by October should be going at full speed."

—E. G. Cattell, Philadelphia City Statistician.

"\* \* \* Better business conditions within ninety days."

—Frank F. Porter of National Industrial Council.

"\* \* \* The recession of business now in progress will terminate by April, 1921."

—Harvard Economic Committee.

"\* \* \* That a business revival will occur during 1921 and especially after the end of the first quarter; for such a revival is foreshadowed by the present abundance of material and labor, and by the abundance of capital which we will probably soon see."

—John Moody.

Statements in public print by such brainy men as Herbert Hoover, E. H. Gary, J. Ogden Armour, Chas. Schwab, Governor Harding of the Reserve Board and Mr. Barron of the Wall Street Journal, all show a spirit of optimism.

#### Our Point of View.

Just as we can look back with satisfaction at the record of 1920 notwithstanding the slowing down toward the end of the year, so also may we look forward with confidence to the prospects of 1921, even though it starts off with industry and commerce in slow speed. We entered the new year with rising confidence and an inclination to speed up in most of the fundamental industries of the country. Some lines of industry which had overreached themselves are

due for a reaction which may extend into the year considerably and involve readjustment on a somewhat different basis. In the main, however, deflation of high prices and high wages seems to be well under way and there is a noticeable disposition to get busy especially in building operations, and in many industries which supply structural materials. In the matter of dollars and cents the past year set a great record for building, notwithstanding the many difficulties. And the indications are that 1921 will set a new high record, both in the matter of total value and in the quantity of building operations. The clayworking industry should look forward with full confidence and prepare for a busy year.

#### Fuel Conditions Improved.

There should be comfort to the clayworking industry in knowledge of the fact that fuel conditions have improved especially in the matter of coal supply and prices. This was inevitable, and while the readjustment in coal supply and prices was delayed through circumstances it has finally come, and improvement work going on among railroads promises assurance that in the future there will be no long continued shortages of coal. There has not been and probably will not be a return to prewar price levels, and the fuel cost in brickmaking will continue as a larger item than in old days. It is an important enough item to merit continued seeking for methods and devices which contribute to economy in fuel, both for power purposes and for the burning of wares. There is comfort, however, in the realization that we have passed the stress period in the shortage of coal and that plenty of it is now available to meet the needs of industry.

#### Highways, Railways and Waterways.

One result of the breakdown in 1920 in our transportation system has been the arousing of keener interest in the facilities for and the development of transportation. Therefore, we may expect 1921 to bring more activity for improved transportation facilities than we have had in any one year in the history of the country. The railways have already mapped out an extensive program and are getting busy at it, and this will undoubtedly result in putting the railroads in better shape than they have been at any time since the great war started.

Meantime we have a new awakening of projects and the urging of possibilities in waterway transportation, especially in the Mississippi valley country. The Mississippi Valley Association, with headquarters in St. Louis, has been very earnestly stirring up the subject of real governmental aid in river improvement.

There are great doings in highway development, and some idea of what is doing and what may be doing in road building and trucking will be brought out at the Eleventh American Good Roads Congress, which is to be held at the Coliseum, in Chicago, February 9, 12, 1921. This will include a good roads show and many interesting features in new types of road building machinery, as well as new offerings for truck transportation.

Taking it all together 1921 promises to be a big year in the development of transportation facilities, and if anything like all the plans being made are carried out we need not again suffer a general breakdown in transportation that can seriously hamper the movement of industry and business.

#### Wage Reductions.

Those who contended there would be no after war wage reductions have been positively, though not definitely, answered. There have been wage reductions all over the country, and compilations made by the National City Bank of Indianapolis the first of the year showed actual wage cuts ranging from 5 per cent. to 60 per cent., the greater majority



being from 20 to 25 per cent. In a word we are taking some of the inflation out of wages as well as out of products and it is merely a question of how much. No one probably feels that wages will be cut to the prewar level, but there must of necessity be some deflation of wages and a settling down to an equable basis all around. The sooner we recognize this fact and build upon such a foundation the better it will be for all concerned.

As many may feel that it is absolutely necessary to reduce wages on their plants there is a word of caution we wish to say in this connection.

Though the work on the clay plant is very arduous the wages are generally ridiculously low in comparison with those of easier more desirable jobs in other lines. Other industries have taken over our good men, paid them unusually high wages but have or are letting them go because of slack business. They will go back to the easier jobs if they get half a chance and then the clay plants will have to operate with careless inefficient men who can not begin to give a full day's work for a full day's pay, hence both quality and production will suffer.

Now isn't this the time to place our industry on the proper basis and not one catering to the riffraff for labor. Why not make the wage scale attractive so that you can secure the better grade of men whom you want to hire and keep with the assurance of better production through a keener interest and a better service.

While other industries are reducing their scale of wages, would it not be better for the clay product manufacturer to increase or at least maintain his present scale and thus keep same on a plane with others that will attract the good substantial type of worker.

Isn't the labor problem one of the most important before us today and wouldn't the entire industry profit immeasurably if concerted action along the line of establishing better working conditions be undertaken?

#### HEAD OF STEEL CORPORATION SEES NO CAUSE FOR ALARM OVER TRADE OUTLOOK.

In an article in "Leslie's Weekly," Judge Elbert H. Gary, chairman of the board of directors of the United States Steel Corporation, expresses an optimistic view of the situation under the title "Why I Look for Better Business Conditions."

"While I recognize, and for many months have comprehended, dangers in the general situation, I am more optimistic in regard to the future of this country than I have been at any time during the last six years.

"Although this is a time for courage, composure and caution, the business skies are practically without clouds. As always, there may be showers from time to time, but there is nothing in the atmosphere to indicate the approach of dangerous storms. It is up to the business men and women to maintain certain and continuous business activity in satisfactory volume, with fair and reasonable profits.

"In the United States capital must not and will not give cause for offense to labor; in the United States labor must not and will not destroy itself by trying to wreck capital. There has been great progress in America with regard to these relationships during recent years.

"And, further, I trust that we shall avoid the danger of discriminatory legislation in this country. Any legislation that is calculated to create dissensions, or to affect favorably one class, as it is called in our general terms, to the prejudice of another, is harmful and vicious; and carried to its natural results may endanger even the national structure itself.

"If I read aright the signs of the times, we may look for-

ward with confidence to market improvement in business results, perhaps not so soon or so rapid as we could wish, but as certain and as satisfactory as the disposition and the action of the majority of the people themselves will permit.

"With its great increasing wealth, its natural resources, its productive capacity, its location and with a well-defined and settled policy to foster and encourage its industries, who can measure the future natural growth and strength of the United States?"

#### THE HOUSING SITUATION IN ENGLAND AS SEEN BY AN ENGLISHMAN WHO LIVED IN THE UNITED STATES FOR MANY YEARS.

Friend Randall:

I think I promised you a letter on the housing question here some time ago, but really I haven't time to write it, and I had no idea how time had gone, till I saw your notice again of the convention of the N. B. M. A. going to be held in New York this time, and so that I won't be late with my subscription, I enclose you my check for \$5.00, as usual, and hope you will have a most successful convention. Wish I could be there.

Coming back to the housing question as we know it here, no one could have believed possible such a shortage as there is, but when you realize that we were not allowed to build any houses during the war, practically for five years, and for as many years before, owing to the People's Budget that was passed in 1909 and 1910, very few houses were built from that date, so that we have to make up for at least ten years practically, no wonder we are needing them badly.

You will find under separate cover, two papers I intended sending you some time ago; the Times will give you some idea of the different materials that have been got up to take the place of brick as a building material. We have every kind, I should think, of imitation building material, that could be thought of to replace brick, because the latter could not be got fast enough to supply demand. I was talking only a few weeks ago, with the manager of one of our largest concerns here, and he said if they could get 25,000,000 a month more they could sell them at the present time and this concern manufactures over 100,000,000 a year.

The government has given a subsidy of about \$1,300.00 for anyone that would build a house, whether to let or for his own occupation. This was to encourage building houses by private individuals. They also have been lending money to local councils, and are doing so now, and guaranteeing that these Councils that build shall not have to stand any loss above a two cent rate; this is for the purpose of having a good reasonable house for the poorest of the poor to live in, in comfort. The reason also for the Government having to do this, was on account of the Rent Restriction Act, which keeps those that have houses to let from raising the rent above a certain figure, it being impossible for anyone to build here today, and rent them at an economic rent, even with the demand there is for them, and with the Subsidy as well. The cost of labor and materials have gone up so since the war that no one but the government can build, and in order that houses shall be built, they have had to provide from taxation the difference between the rent they can get for them, and the economic rent that is required to make them pay. So much for a foolish piece of legislation, as I call it, of not allowing the rents to go up in proportion with everything else. Yet one can't blame the government altogether, we have still some men left that will have the last penny that is coming to them, and as soon as they saw a chance to get a little extra, they commenced to raise rents out of all proportion to



what they should have been, hence this Rent Act. The latter, though, has now begun to show itself in the fact that the people that did not want to pay a reasonable rent have to either live with their parents or be satisfied to take anything in the shape of a dwelling that they can get, and even these can't be got today without a great deal of trouble. When a house is for rent here now, you have scores of people after it.

This, as you will see, opens up a very wide question indeed. The government here has decided that you can't have an A 1 population with a C 3 housing program. I ought to explain to you perhaps, that the A 1 and C 3 terms were used in connection with the Military Tribunals during the war and I am applying them now to the housing question, and this brings up the remedy that we in this country are trying to solve. An A 1 man was all right and the C 3 was no good for military purposes.

The government decided on a certain type of house, which is called type A and type B. One has got what is known here as a scullery with large living room on first floor, three bedrooms, bath, etc., on second floor. Type B has on the first floor, in addition to the other, another room called a parlor, this is known as the parlor type with the same accommodation on the second floor, and we have also another type with four bedrooms and the other conveniences.

These houses used to cost, before the war, from \$1,200 to about \$1,600 each, built of brick and stone, whichever was best available. Using these same materials today, they are costing from \$4,000 to \$5,000 in one case, and the parlor type from \$5,800 to \$6,500 without the land, drainage or streetage. When the latter items are added, you can see that the house is costing something.

How to overcome this cost is the point at issue, and there is where it might interest your readers if you care to publish it. The price of brick went up from, say \$5.00 to \$20.00 per 1,000 all over the country, and could not be gotten even at that price, and can't today. And that is why we have had in this country every conceivable kind of building material that one could think of in order to try and cheapen the construction, even to wooden houses covered with asbestos. I might say though that the wooden house has no friends at all here, and any wooden structure that is built, the parties have to agree to remove it at six months notice, so that even with the houses coming from America, already to put up, complete with windows, doors, etc., I saw one in London not long ago, still laying on the ground, as the Local Council would not grant him permission to erect it on account of fire. Mind you, I did not agree with this Council with there being such a demand for houses here, as they might have allowed it to be built and used for a number of years at least, but they didn't, and the man has it for sale. The reason I think they might have allowed it to be erected is on account of so many army huts having been built for one thing and another, and which are being used till other building material can be secured.

Semi-dry concrete, plastic concrete, reinforced concrete and a number of other kinds are being utilized at the present time, and two weeks ago some 16 or 17 houses under construction were blown down in Leeds that were being built of one of these materials. I don't think it is that they can be built cheaper, but quicker, and the fact that brick are not available, nor are bricklayers.

Then again, the labor conditions have been anything but what they should be at a time like this, when everyone should be doing all they possibly can to help get out of a difficulty. Many stories have been published of bricklayers laying only 300 brick per day, when it was stated they could lay from 800 to 1,000. This means English size brick, which are the size of the American paving block. I don't altogether agree that all that was published was true; on the other hand I am not satisfied that they have always done their best, and in this

way it has caused everyone to try and find something that will take the place of what is called skilled labor, or bricklayers. And the result of this is the many different kinds of concrete construction which we have here today.

One can't help but notice, however, that when a house is for sale now, they generally mention that it is built of brick, that is, if it is a brick house. It being well understood that built of this material it is far more valuable than the best of the concrete substitutes that are being used. To me I have seen nothing I call new, or what you have not got over there, and which has been tried over in the States and no doubt but for so many things happening all at once, you would have seen nothing much but the brick house, in the large majority of cases here. But the demand is such, that all the brickyards in the country could not cope with it, and it will be years before they can do so, because we have to make up for so much lost time.

Before I stop I want to mention that article of Col. Orton's on Americanization, which you sent me copy. It was one of the best that has ever been given before the N. B. M. A. Convention, and I was tempted to send it to Mr. Lloyd George, and if I thought he would have read it, I would have done so. What the Colonel said of America applies practically to every country in the world, and we really ought to get more from men than we do, who can both see and give it in words. Such men owe it, in my judgment, to the rest of the people, because in a majority of cases, and I am pleased to say, in a majority of countries, we have more of the sane, solid-thinking kind, than we have of the other, who, all they want is a common sense way shown to them, and they will follow. I want to say through you, how pleased I was to read this article, which I have done several times, and enjoyed it the last time even better than the first.

I should now stop, but I cannot do so without saying that I was not a bit surprised at the last election. One cannot have lived over there for almost 25 years without knowing something of the people over there, and while I can assure you that it was appreciated to the full when the United States came into the war, the greatest mistake was that you did not come in when the Lusitania was sunk. If you ever had a right to come in, it was then, and if some of the men that were living at that time had had the reins of government it is thought you would have been, and only those that are suffering torture in Russia today know what a difference it would have made. However, that is history now, and he's a marvel that never made a mistake.

Let me say that we are beginning to see, as I see it, some daylight here, and we know we shall eventually come through. About everything is taxed here to the limit. This we don't mind. The first thing is to pay our debts, and that is what we shall do, besides handing out just as much as we possibly can to those not quite so fortunate as ourselves, and dear knows Europe, I think, never was as poor as it is today, and never needed the help of every one that is willing to help than it does now.

I noted with a great deal of pleasure that you have got connected with one of your concerns over there one of the best English concerns we have here, The Hadfields Limited. That was, in my judgment, one of the best deals that Mr. R. C. Penfield ever made, not only for the Hadfield-Penfield Steel Co., but for the nation of the United States.

I wish you most sincerely the compliments of the season, and hope you and the Clay-Worker staff will thoroughly enjoy your Christmas, and that the coming year will be the best you ever had.

Yours sincerely,  
Slaithwaite, England.

H. HAIGH.

The necessities of the present year will probably teach us more in the way of real efficiency than we have gotten out of all the theories in the matter in the past several years.



## GLIMPSES OF BRICK AND TILE PLANTS IN FRANCE

NOTES AND SNAP SHOTS MADE BY S. GEIJSBEEK  
DURING A TRIP TO ENGLAND, BELGIUM  
AND FRANCE.

THE FEW ARTICLES which we read from time to time in our daily newspapers and magazines about European conditions, give only a vague idea of the actual situation. It was my good fortune to visit that part of Europe which was victorious in the World War before the peace was signed at Versailles. As conditions at present in Europe change quickly and nearly overnight, it may be that some conditions which I will describe, have no bearing whatever on the present conditions, but are rather historical facts observed by myself and recorded as such.

A trip or, expressing the word used mostly by foreign travelers, "voyage," under the conditions which were present at that time, January to July, 1919, was certainly no outing party nor picnic and with all rules and regulations as to passports, visa, consul's statements, birth and citizen's affidavits taking up nearly half of your valuable time, I am most sincerely impressed that we here in America even while the war was on were treated by the government in the most

tickets, giving you your daily ration.

Thus equipped, even visiting England was rather burdensome. Hotels were dirty, food was scarce, sugar was not to be seen, meals were limited to one shilling six pence (\$0.36). At the time I was in England they had a strike among the coal miners, hence it was not warm anywhere. Trains moved when the machine (engine) was able to get enough coal. The experience of the difference in language is rather funny. In the subways in London called "tubes," there are signs announcing "the next train passes such and such a station." Our English friends mean that the train does not stop at such and such a station. Signs on the autobusses says "Look before you leap." An express wagon is a "collecting van for fast train traffic." If somebody tells you to call again, the Englishman says "Look in" and if you wish to call anybody to the telephone, they say "Ring up."

The English parties on which I called were very nice and business-like, and I was given all information and opportunity to visit plants I desired. Brick is mostly used for all buildings, while hollow tile is just being introduced. One of the leading brick concerns in Manchester, the firm Higgins & Co., Ltd., was just introducing hollow building tile, which were made on Fate clayworking machinery. The main supply of brick for London is made at Petersboro, some 45 miles north of London. Excellent clay deposits are found here, and some



Snap Shots of Brick and Tile Plants in France Made by the Clay-Worker Scribe.

liberal spirit as compared with England, France or any other country.

Upon landing in Liverpool, after one of the most stormy passages which the crew of the English steamer claimed to have ever had, we were initiated into the secrets of the English laws as applied to foreigners. Before being able to get a room in a hotel, you had to register at police headquarters, and having just landed in England, it was necessary to get an English passport. Such a passport was a much more elaborate affair than our American passport. The English law requires even finger prints on passports. You also needed two Englishmen who could swear that you were the person applying for the passport. Being a stranger in a strange country this was rather difficult, but I found our American Consul in Liverpool ready to swear to such a statement upon payment of \$2.00 fee. Before leaving one city in England, it was necessary to go to police headquarters and announce that you were going to another city, you had to fill in a paper, naming the time you wanted to leave and by what method, train, auto, horseback or on foot, and your passport was then stamped "Good for London" or "Birmingham," as the case might be, and after arrival at your next destination, you went through the same performance, applying first at police headquarters, and announcing that you had arrived, the place you were going to stay, and your passport was stamped accordingly. You were handed bread, and meat

26 or 28 clay plants are located in and around the city. These clay plants all use continuous kilns, and the many high stacks around Petersboro testified that continuous kilns are the only method used for burning brick. The largest concern is the London Brick Co., making over two hundred million brick per year, when the demand is normal. Most of the brickyards have from two to four continuous kilns. The methods of operation are far less mechanical than in our American brickyards. The principal reason for this was cheap labor, but in as much as labor wages also have gone up greatly, the mechanical equipment of European brickyards will be more in evidence in the future.

While the war was on we heard so much about the United States stopping the German teaching in schools, changing of German names and signs on business houses, etc., and in fact condemning anything that was German. Well, our English friends apparently did not go near as far as we did in their methods of condemnation. On all railway stations in London, there were still signs printed in German, saw plenty of German papers and names, and I have still in my possession a Cook Tourist ticket from London to Paris, in which all the conditions applying to this ticket are printed in German. This ticket was bought in London before the peace was signed.

Making the trip from London to Paris by way of Folkstone and Boulogne and crossing the English Channel, I got my



first impression of the French. Judging by the way the French customhouse and military authorities asked questions on entering France the red tape was less used than in England. In fact my American passport was taken for the first time for its face value, and evidently the restrictions were less severe than in England. The fact that I was able to use my kodak and take pictures was due to the fact of having an American passport. Whenever I was stopped and told that it was not permitted to take pictures, I pulled out my American passport and was told it was all right, and go ahead and take the pictures. This applied to war zone also; hence the battlefield pictures which I took.

The first thing that attracted my attention as far as clay products was concerned in France was roofing tile. Clay plants which are making as high as two hundred thousand pieces of roofing tile per day exclusively are found in large



Brick and Tile Plant Under Clay Tiled Roof.



Permanent Up-Draft Kiln.

numbers in the various clay districts. The main clay districts in France are located in the coal mining centers, and central France has the most clay plants. Judging from my observations of the French methods of making clay products, they are more advanced than the English, they made a better quality of products, and use more pains in finishing the product. Their clay plants are cleaner, better arranged and operated on better principles. The preparation of clay in French brick plants is more intense, even in the common brick plants, than in ours, even in the plants making the better class of clay ware. Clays are also more carefully selected, as they come from the bank, they are put through rolls, pugmills and disintegrators three or four times, before they are used in

auger machines. Several of the clay plants which I visited, were built of all steel construction, with hollow tile floors, and brick outside walls. In fact only a few of the smaller plants were frame constructed. The continuous kiln is generally used also in France, although the Zig Zag kiln has been built at several plants and given excellent results. All kilns are much smaller than in this country and any brick plant with half million brick yearly capacity has a continuous kiln. In France most brick are transported by water, and when freight cars are used, the brick are just dumped into open cars and not piled up like our brick. In Europe you can get any kind of capacity for freight cars. The smallest they have is 3 tons, then 8 tons, 12 tons, 20 tons and 30 tons is the largest size freight car on any system. All American freight cars sent to France for the army, painted with large initials "U. S. A." were only 30 tons, 60,000 pounds capacity.

The set of pictures printed with this article were taken during my trip and will give a good idea of the various points of interest. In picture No. 1, there should be noted that the whole brick plant is under the roof of the continuous kiln. No. 2 was an actual blue clay gravel pit, and the removal of stones from the clay was done all with rolls and disintegrators. The superintendent guiding me around, had lost one arm in the war five days after the war started and



The Author Standing Near one of the Big French Guns.

was nearly four years a German prisoner. He had lots to tell. No. 3 shows a 15 ton freight car and a car loaded with wood for burning the continuous kiln. There is enormous traffic on European rivers. I was told that the shipping tonnage passing through the port of Paris was greater than that passing through the port of New York. One item alone amounts to over 500 million gallons of wine. No. 4 and 5 are characteristic of the French small brick yard. Permanent updraft kiln, covered with clay tile roof, and clay tile covered drying sheds.

#### THE CENSUS FIGURES.

The completed figures of the census report show a total population in the United States proper of 105,708,771. The total, counting our outlying possessions, of which the most important is the Philippines, runs to 117,557,509. The population in the United States proper in the final report shows a gain over the preliminary figures of 25,663. The largest state is New York with a population of 10,384,892, while the smallest is Nevada with a total of 77,407. There are thirty-one states which show more than a million population, and four which show more than five million population.



## RECENT PATENTS

### IN THE CLAYWORKING INDUSTRY.

**No. 1,353,188. Method and Apparatus for Cutting Bricks from Natural Deposits.** Edward B. Starr and Howard B. Marsh, Lompoc, Calif., patentees.

Patent awarded for an apparatus for cutting bricks or blocks from banks, comprising track means, a truck adapted to travel on the track means, and cutting devices movably mounted on the truck to move transversely to the track.

**No. 1,353,515. Brick.** Frank W. Butterworth, Danville, Ills., patentee. Patent assigned to Western Brick Co., Danville, Ills.

This patent is given for a brick which has its entire surface provided with closely-spaced, short and narrow indentations disposed in substantially parallel lines and all extending in one and the same direction, whereby the appearance of the said surface is the same in whatever position the brick may be laid.

**No. 1,347,533. Hollow Channel Brick.** Richard Blair Cooper, New York, N. Y., patentee. Patent assigned to Fiske & Co., Inc., Boston, Mass.

Patent for channel brick which comprise a body portion and three projecting hollow portions extending at right angles to the body portion and forming two open channels, all three portions being substantially equal in height, and the central portion having ridges overhanging the channels.

**No. 1,361,148. Brick Mold.** Robert A. Fontaine, Martinsville, Va., patentee.

Patent for a device of the character stated, which comprises a frame consisting of parallel side and end angle bars forming a mold, parallel wires connecting the end bars, means on the bars adjustably supporting the ends of the wires, said means comprising wedge-shape blocks having wire receiving slots therein, and cross pieces secured to the wires and located on the inclined upper surface of the wedge blocks.

**No. 1,355,035. Machine for Cleaning Brick.** Joseph Collins and Marcus Askew, Hopewell, Va., patentees.

A brick-cleaning machine which has a cutting block having a broad base, a brick passage through the block extending from top to bottom thereof, the upper portion of the outer walls of the block being formed on the angle inclined downwardly toward the perimeter of the block, and cleaning knives adjustably mounted on the said inclined faces with their cutting edges grouped to form a throat leading to the passage in the block, through which bricks are passed as they are being cleaned.

**No. 1,363,264. Brick and Process of Making Same.** Frank Orth, Indiana Harbor, Ind., patentee.

A process for the manufacture of building material, which consists in first preparing an aggregate comprising particles of substantially pure silica material in sizes graduated from those of relatively large size to those which will pass a 40-mesh screen, and of proper proportions to secure a minimum percentage of voids, then mixing therewith 2-5% of calcined and hydrated lime, then molding said mixture into the desired shape, then subjecting the material so molded to the action of steam at substantially 125 pounds per square inch for approximately ten hours, thereafter burning the same for a period of eight days at a temperature of 2800-3000 deg. F.

**No. 1,363,853. Brick-making Machine.** Arthur O. Dupuy, Cleveland, Ohio, patentee.

In a brick-making machine the combination of a suitable frame; a plugging mill mounted upon the latter; a suitable

die beneath said mill; a pressure chamber located intermediary of said mill and die; a horizontally-mounted plunger rod and a plunger connected therewith, said plunger co-operating with the pressure chamber to force the contents of the latter into the die, the plunger including a stepped member; means for shifting the stepped member transversely with reference to the direction of movement of the plunger rod.

**No. 1,355,913. Filler Body for Packer Heads of Tile Machines.** Frank A. Roosa, Orange, Iowa, patentee.

A former-head for a tile machine, having a basal smoothing cylinder and spaced trowelling projections thereabove, a plate positioned removably upon the projections, and filler bodies adjustably mounted upon the plate and depending into the interspaces of the projections toward the cylinder.

**No. 1,356,940. Building Tile.** Caleb Payne, Chicago, Ill., patentee. Patent assigned to United States Gypsum Co., Chicago, Ills.

A building tile constructed with the body near the upper and lower surfaces longitudinally extended in opposite directions to constitute meeting supporting ends of contiguous tiles at one end, each end portion of each tile having a longitudinally extending face portion, and inclined face portions between the longitudinally extending face portion and the vertical face portion.

**No. 1,357,089. Process of Producing Alumina from Clay.** Victor M. Goldschmidt and Oystein Ravener, Christiania, Norway, patentees.

The process of producing alumina which consists in heating an aluminous material to a red heat, lixiviating the calcined material with nitric acid thereby dissolving alumina and forming an aluminum nitrate solution and converting the aluminum nitrate to alumina.

**No. 1,362,158. Continuous Muffle Kiln.** Henry Webster, Newport, Ky., patentee.

A kiln comprising a series of heating chambers with a solid wall dividing the chambers from each other; furnaces along the sides of the kiln opening into their respective chambers, a muffle in one or more of said chambers, hot air flues opening downwardly through the muffle floor with lengthwise passages underneath the floor traversing the length of the muffle.

**No. 1,363,215. Gravity Kiln.** Thomas F. Anderson, East Liverpool, Ohio, patentee.

A kiln which comprises a tubular oven chamber, having an inlet and an outlet, said chamber extending in a slanting direction sufficient to cause solid articles therein to progress by force of gravity only toward said outlet; a source of heat, a heat-conveying channel surrounding a portion of the chamber between the ends thereof.

**No. 1,353,702. Brick Building Construction.** Charles J. Aschauer, Decatur, Ills., patentee.

In a system of building construction pre-cast unitary wall bricks, each brick presenting at one end thereof an inwardly-directed pocket-wall lug and presenting a second inwardly-directed pocket-wall lug sufficiently distant from the opposite end for the face of the block to present beyond the end of the lug an extending member to constitute a third pocket wall, run-in-place posts molded in the pockets and forming the sole frame work for the wall bricks.

**No. 1,363,787. Refractory Furnace.** William J. Hill, Montreal, Can., patentee.

A furnace structure comprising a heat accumulating and radiating element having tortuous passages therethrough by the arrangement of fire brick transversely and longitudinally, a deflecting slab surmounting said fire brick centrally and



extending longitudinally from end to end, a vertical longitudinal central wall on the slab, brick walls enclosing said element and forming an oven thereabove, and having central and side flues in communication with the tortuous passages.

**No. 1,356,211. Refractory Article.** Silas C. Linbarger, Niagara Falls, N. Y., patentee. Patent assigned to the Corborundum Co., Niagara Falls, N. Y.

A refractory article for use in firing ceramic ware to prevent discoloration thereof, comprising a body containing silicon carbide, and a protective coating free from silicon carbide formed thereon.

**No. 1,356,939. Refractory Material.** John L. Ohman, Niagara Falls, N. Y., patentee.

Patent for a non-recrystallized refractory material for heat-resisting articles, comprising silicon carbide and crystalline graphite.

**No. 1,362,274. Refractory Article and Process of Making Same.** Frank J. Tone, Niagara Falls, N. Y., patentee.

This is a patent for a new article of manufacture, consisting of a highly refractory material composed essentially of a burnt mixture of zirconia and sillimanite.

**No. 1,362,316. Refractory Material.** Otis Hutchins, Niagara Falls, N. Y., patentee.

As a new article of manufacture, a highly refractory material which consists essentially of a burnt mixture of zirconia and alumina.

**No. 1,362,317. Refractory Article and Process of Making.** Otis Hutchins, Niagara Falls, N. Y., patentee.

A shaped highly refractory article which is formed of a burnt mixture containing zirconia and chromite.

#### GEORGIA TECH TOUR.

THROUGH W. E. DUNWOODY, of the Standard Brick Company, Macon, Ga., we have been favored with a brief account of the industrial tour made early in the winter under the auspices of the Georgia Technical Institute in which a hundred and twenty-five Georgians went on an inspection trip of northern industrial centers to get some ideas for development of resources of that state along industrial lines.

They found quite a lot of Georgia raw material being used in many industries in the north which suggested the need for industrial development in Georgia. Perhaps, however, the most significant paragraph in the report is that pertaining to research work which was told to them by manufacturers visiting. This paragraph was as follows:

"Research is absolutely necessary to industrial development. The day has gone by when scientific problems can be solved by individuals in the work shop. Our industrial plants depend largely upon two scientific institutions, Mellons and Boston Tech."

They found among other things that the Westinghouse plant spends nearly a million a year on research work and that nearly everywhere research is a feature of industrial development and the progress of civilization.

The result of this Georgia Tech tour into the northern states was to arouse so much enthusiasm that another tour was planned in the state of Georgia, and Governor Dorsey of Georgia extended an invitation to W. E. Dunwoody to make up one of this party as he had made up one of the party on the northern tour. In extending this invitation the Governor pointed out some of the benefits from such a trip. Among them to stimulate business and to develop acquaintances among the leading men of the state, and to awaken interest into the development of industries in keeping with the available raw materials of the state. Right now is a

splendid time for such interest and activities, and other states may well follow the lead of Georgia and seek for a better acquaintance both among the men of affairs in the states and of the raw material resources from which may be developed industries to advantage. Also trips of investigation of this kind cannot help but lead to a better understanding of the great possibilities of research work and what may be accomplished by co-operative support of efforts of this kind.

#### EXPORT NOTES OF INTEREST TO THE BRICK INDUSTRY.

ACCORDING to statistics just available at the Department of Commerce, the export sales of brick in the ten months ended on October 31, 1920, took a tremendous jump—in the case of fire brick the increase totaled nearly one million dollars in the period named over the corresponding ten months in 1919. In building brick, the increase in exports reached nearly sixty per cent.

The figures furnished by the department show that in the ten months ended on October 31, 1920, the foreign sales of building brick amounted to \$317,656, as against \$202,066 in the first ten months of 1919. Fire brick worth \$3,071,015 were exported in the first ten months of 1920, while in the same period of 1919 the total was only \$2,373,413. In the month of October, 1920, alone the exports of fire brick were \$44,987, and in the same month of 1919 the total was \$255,910. Building brick exported in October of 1920 were \$40,735, and in October, 1919, \$43,021.

A cablegram just received from United States Consul Nasmith, stationed at Brussels, Belgium, states that the Belgian government has decreed that hereafter "ordinary bricks, fire bricks of all kinds, tiles, drainage pipes, and other clay-ware" can be imported into that country without license. Up to this time it has been necessary to secure an "import license" in such cases.

A communication received by the Far Eastern Division of the Department of Commerce from New Zealand conveys the information that there is a large and increasing market there for American brickmaking machinery. The country is said to be growing very rapidly, and the demand for brick of all kinds can be supplied to only a limited extent, while the great distance adds considerably to transportation costs of brick when shipped from the United States or other exporting countries.

ALFRED T. MARKS.

#### BRICKMAKERS IN ENGLAND LEADING IN BUSINESS ACTIVITIES.

H. Greville Montgomery, Editor of our namesake on the other side of the big pond, The British Clayworker, in a recent letter, states that the brick business in that country is thriving, and it is about the only one that is. The people must have houses, and as they do not "build to burn" in England, they have to buy brick, no matter what the cost.

Speaking of England reminds us that one of the many pleasant and much appreciated messages received during the holiday season was a cablegram of Christmas greeting from our good friend, Sidney Higgins, of William Higgins Sons, brick manufacturers of Manchester, England, who spent several months in this country a year or so ago, studying improved methods of brick manufacture.

The drain tile business is dragging a little because the farmers are feeling depressed over lower prices for their product. In time the farmer, like the manufacturer, will learn that it is through the application of modern methods and scientific principles that he may obtain profits even at lower prices.







an 8-inch eighty acres." The above rule is for casual, not thorough work.

In thorough work, the following brief estimate of the number of acres drained by different sizes of drain tile to be used in the construction of drain is taken from a table prepared by Prof. R. C. Carpenter:

Size of Tile—Acres Drained.

| Rate of Inclination. | 3-In. Tile. | 4-In. Tile. | 6-In. Tile. | 8-In. Tile. | 10-In. Tile. | 12-In. Tile. |
|----------------------|-------------|-------------|-------------|-------------|--------------|--------------|
| 1 ft. in 50....      | 8.4         | 17.0        | 47.7        | 98.0        | 170.4        | 269.0        |
| 1 ft. in 100....     | 5.7         | 11.9        | 33.1        | 69.2        | 120.6        | 190.5        |
| 1 ft. in 150....     | 4.5         | 9.5         | 26.6        | 56.0        | 97.3         | 154.4        |
| 1 ft. in 200....     | 3.9         | 8.2         | 22.8        | 48.0        | 83.9         | 132.5        |
| 1 ft. in 250....     | 3.5         | 7.5         | 20.4        | 42.4        | 74.4         | 117.0        |
| 1 ft. in 300....     | ..          | 6.9         | 18.4        | 38.2        | 65.5         | 107.0        |
| 1 ft. in 400....     | ..          | 5.9         | 16.5        | 34.6        | 60.3         | 90.7         |
| 1 ft. in 500....     | ..          | 5.2         | 14.8        | 30.1        | 54.0         | 81.6         |
| 1 ft. in 600....     | ..          | 4.8         | 13.3        | 28.0        | 48.6         | 74.0         |
| 1 ft. in 800....     | ..          | 4.1         | 11.4        | 24.0        | 41.9         | 65.0         |
| 1 ft. in 1,000....   | ..          | ..          | 10.2        | 21.2        | 37.2         | 56.0         |

The above table is intended for accurate, thorough drainage, but it is better practice, in our judgment, in ordinary or casual work, to use larger sizes of tile in proportion to the number of acres to be drained. To make sure of sufficient capacity in the drain to carry the water of ten acres, we advise the use of 4-inch tile, instead of 3-inch tile.

Second, the inclination or fall is an important factor in determining the size of tile to be used. The greater the fall the greater will be the rapidity of the water flow, increasing correspondingly the amount of water discharged through the drain. A 4-inch drain may have fall enough to carry as much water as would flow through a 5-inch drain laid with much less fall. A main drain may be laid at almost a level grade and do good work, but the size of the tile should be larger in proportion to the less fall for the reason that the water will flow with less rapidity than would the water in a drain with much more fall.

Third, the depth of the drain is also a factor in determining the size of the tile needed to secure the most efficient drainage. The greater depth requiring a less size, when the fall is the same as that of a drain laid at a less depth, other conditions being equal.

The increased depth gives an increased water pressure in the soil, which increases the water flow in the drain. Another reason why the size of the tile may be less in deep drainage is that the greater the depth of the drained soil and subsoil, the more water there will be required to bring the deeper subsoil to the point of saturation, when the water will fall away and enter the drain. A soil drained to the depth of 4 feet would receive and hold the water of a heavy rainfall almost to the point of saturation before the water would pass into the drain. The deeper drainage will aid in conserving needed moisture for the growing crops.

Drainage in England is usually at a depth of from 4 to 5 feet. In their retentive clay soils, the drains are laid from 20 to 30 feet apart, the tile used are small, 1½-inch and 2 inches being in common use for the latter drains; with almost perfect construction their drains do good work. But in the experience of some of our most extensive land drainers in this country, a 4-inch tile is as small as they will use for the side drains to carry off the water to heavy rainfalls, besides, it is claimed that by using larger tile a better aeration of soil is secured.

Another factor in determining the size of tile to use is the method of constructing the drain, the regularity of the fall, the directness of the flow of water in the drain and the laying of the tile.

A drain may be dug and leveled correctly, but the laying of the tile may be so imperfect as to greatly diminish the working capacity of the drain. By placing the tile in the drain unevenly jointed, or shouldered, more or less, the water in flowing through the drain strikes against the shoulders and deflects across the current, hindering the flow, reducing the capacity of the drain at every uneven joint."

#### MAKES GOOD FARMS BETTER WITH TILE.

Proper and adequate drainage is an absolute essential to maximum crop production. There are today farm land areas in the United States, aggregating between 100 and 150 millions of acres, that could be made more productive—and more profitable—if drained. This is improved land already producing crops—land that, for most part, can be easily and cheaply put in condition for maximum production.

Tile drainage is needed for every acre of it. Clay tile, properly put down, will solve any ordinary farm land drainage problem, and every dollar invested in it will yield dividends.—American Clay Magazine.

#### WORK FOR DRAIN TILE MANUFACTURERS.

A WHOPPING big order is waiting for the tile salesman who watches the lay of the land during the next few weeks in the neighborhood of Perch River, N. Y., a little town tucked away in an out-of-the-way corner of Jefferson county, near Lake Ontario.

Farmers in the vicinity are making ready, with the aid of the state to reclaim some 3,000 acres of what is now worthless swamp land. A mammoth drainage system is to be installed, under plans which are now going forward and when the reclamation is completed some of the richest farm land in New York state will be ready to produce revenue.

Grangers and county farm bureau workers are back of the scheme which will have the support of the state, under recent amendments to the state constitution which facilitate vast drainage projects like the one now proposed. An outlay comparatively small in relation to the big profits which are expected to come from the reclaimed land will be needed to put through the drainage project.

Today this swamp area yields vast crops of cattails, reed and marsh grass. Farmers who own it, when their reclamation project is finished, are planning to reap rich grain crops from it. Hay will probably be a staple as this is one of the great hay sections of the nation.

The cost of the project will be assessed upon the owners of the land which is to be benefited and payment will be made out of the revenues from the reclaimed areas. E. H. Sargent, an assistant engineer for the state conservation commission, is bringing the commission's aid to the project.

#### MEETING OF THE EASTERN PAVING BRICK MANUFACTURERS.

The Waldorf Astoria Hotel, New York City, was the scene of a very enthusiastic meeting of the Eastern Paving Brick Manufacturers' Association, December 14th and 15th. Nearly one hundred percent of the members were in attendance, and they were well nigh unanimous in the opinion that the outlook for the coming year is excellent. There is apparently plenty of business in prospect to keep all the plants busy.

The old officers were re-elected, Ray Winslow (not of soothing syrup fame), was unanimously chosen president again, despite his strenuous protests. He was told that if he did not accept gracefully he would be elected for life. R. T. Hutchins of Wheeling, W. Va., is treasurer and W. C. Perkins of Philadelphia, Pa., secretary of the Association.



## PACIFIC COAST NEWS.



ONSIDERABLE activity is looming in the brick and clay products industry on the Pacific coast and preparations are being made by the trade to handle a large volume of business in the early months of the spring and for some time thereafter. Just now business is not very slack for the usually dull winter season. New plants are being established, old ones put into better shape to handle the promised business and promoters are planning new establishments with the widely heralded announcements of experts that California contains more abundant deposits of shale and clay than had before been considered possible.

A large building boom is projected for San Francisco in the spring, mostly residence building, however, with the increasing fashionableness of brick structures and the increasing cost of lumber, it is estimated that a large amount of brick tile and common brick will be used. Los Angeles during the latter months of 1920 became the second city in the United States in point of volume of building operations, it being superseded only by New York city. The building in the southern city is continuing unabated, while Sacramento is constructing new edifices on a scale hitherto unknown. School after school, as well as residence and new office and factory buildings, are being built in the latter city and no let up to this program seems to be in sight.

Added to the increased activity and the contemplated abundance of building operations for the next spring, the situation is further enhanced from the point of view of those engaged in the trade by the better labor situation. Of late labor in California seems to be adopting a common sense viewpoint in regard to wage demands and its general attitude toward employer and the public.

The better feeling engendered by action of the labor unions in the building trades in California lately is considered portentous of a lack of trouble which will redound to the benefit of the entire community. There is only one blot on the new program of labor here and that is the talked-of establishment of a brick yard by the San Francisco bricklayers' union. This project has received the indorsement of the international union, but many men prominent in the trade here are inclined to believe that actual preparations will never go any farther than talk. During the campaign among the union men for the establishment of the brick yard much unpleasant talk was injected into a trumped up controversy with the local brick yard owners, they being generally branded as profiteers by some hot headed men who wished to create an issue to further their own personal ends.

The D. A. Cannon & Company clay products plant in North Sacramento will be doubled in capacity within the next three years, according to announcement of the management, which also made public the purchase by the concern of 110 acres of land adjoining the plant. According to Mr. D. A. Cannon experts have informed him that the clay deposits on the company's new land are among the best in the country for the manufacture of tile products. It is estimated that the deposits are sufficient to keep the plant supplied for the next fifty years.

Activities at the Coast Fire Brick Company plant in Richmond will soon be greatly increased, according to a statement of Ed Lynne, of Oakland, who has announced the reorganization of the company.

Machinery for a new brick plant in San Joaquin, Cal., which it is announced will have a capacity of 40,000 bricks a day, has been ordered by Dr. Herman Janss, of San Francisco. Operations will commence in February, says Dr. Janss.

A local company to operate a brick plant at Worth, a town five miles from Porterville, is being projected. Experts say the deposit of shale on the land which is being considered there contains a deposit of shale which is suited for manufacture of brick, tile and hollow brick. Harry W. Loeb, of San Francisco, owns the property.

Manufacturing on a large scale will commence in April at the California Pottery's new clay products factory on a fifty acre site in Merced. With an estimated valuation of \$500,000, the new plant when completed will be the largest of its kind on the Pacific coast. Sixteen down draft kilns, each thirty feet in diameter, will be built of brick. Eight of these kilns will be completed first as a single unit. Other buildings are to be constructed of hollow tile. The two main drying buildings will be 300 feet square each. The site of the plant contains excellent clay in quantities sufficient to last for one hundred years, it is said.

Vitrified clay products will be made from a 200 acre fire clay deposit owned by the company in Calaveras county. The California Pottery Company is at the same time inaugurating a wide program of expansion and development, including the establishment of a branch office in Honolulu, which will be in charge of H. J. Brown, until now in charge of the company's Fresno branch. Robert E. Lally, of San Francisco, will take Mr. Crowe's place in Fresno. The supply yard and business of the company at the latter point will also be greatly enlarged to care for an increased volume of business, it is said. A building campaign of some magnitude is planned for Fresno beginning with the early spring, including among other projects the construction of a half million dollar hotel.

Six additional sheds are being erected for drying terra cotta at the large Gladding, McBean & Company plant in Lincoln, Cal., and it is stated that more will probably be constructed soon. Increased production of terra cotta and other clay products at the Lincoln plant is planned for next spring, says Superintendent A. J. Gladding.

SUNSET.

## BUILDING MATERIAL PRICES.

While the tendency in prices on building materials has been downward and this in turn has led to a small volume of buying in the hope of further reduction in price, and has served to retard building operations, this is only a part of the cause of slow building. The other part is that of labor cost and inefficiency. This will play an important part in determining building activities both during the winter and in the early spring. Meantime some items like lumber, it is claimed, have reached the low level in prices. Lumber, broadly speaking, is down to something like half what it was the first of the year, but at that it is higher in price than in pre-war times. This was to be expected, and the lumber people contended that the point of cost of production has been reached in structural lumber and there will be no further reduction.

In brick and hard building material, while there has been some easement in prices, declines have not been as sharp as in lumber. Just to what extent these prices may decline and where they may be checked and held by the producers constitutes a problem that the trade is working on right now, and the answer to which it will take probable two or three months to complete. Meantime it is well to bear in mind that prospective building waits upon staple prices at the lowest level which is consistent with the cost of production.

Raw material research is a good thing for various branches of the clay working industry these days, for we have much to learn yet of the possibilities of many deposits that are available for use.



COMING ANNUAL CONVENTION OF CANADIAN CLAY-  
WORKERS TO BE ONE OF THE BEST OF  
THE LONG SERIES.

SECRETARY GORDON C. KEITH has broken all records in preparing the program and list of events for the nineteenth annual meeting of the Canadian Clay Products Association, which is to be held in the blue room on the mezzanine floor of the Hotel Carls-Rite, Toronto, January 25, 26 and 27. Secretary Keith will establish headquarters in the ante room of the convention hall, Tuesday, and the office will be open each day during the convention for registration, payment of dues, etc.

The first session will be held Tuesday morning at 10:30 o'clock and be presided over by William Burgess, who has served the Association two years as president. The address of welcome will be delivered by C. A. Millar, of Toronto, chairman of the Entertainment Committee. After response by N. T. Gagnon, of Montreal, and W. H. Freeborn, President Burgess will give the President's annual address. The routine business of the convention will then receive attention, including reports of the various officers and committees and the election of officers, and selection of a meeting place for 1922.

The program for the three days includes the following papers: "New Ideas in Pyrometry," J. J. Mungan, Detroit, representative of the Brown Instrument Co., Philadelphia; "What Happened to Our Plant When We Changed from Day to Piece Work," Charles A. Millar, Toronto; "Superiority of Clay Sewer Pipe," A. G. Dalzell, formerly of Vancouver, now of the Clay Products Agency, Toronto; "Handling Clay, Clay Products and Coal," C. F. England, Toronto, illustrated with moving pictures; "Superiority of Clay Sewer Pipe," A. G. Dalzell of Clay Products Agency, Toronto; "Office and Factory Systems," M. B. Selden, Office Specialty Co., Toronto; "Putting Waste Heat to Work," George Cutbush, Don Valley Brick Works, Toronto; "Burning Fuel at Maximum Efficiency," A. M. Wickens, Toronto; "Tunnel Kilns," Conrad Dressler, American Dressler Tunnel Kiln Co., Cleveland, and George Booth, Islington; "The Outlook in the Building and Construction Industries," J. Clark Reilly, secretary of the Canadian Building and Construction Industries, Ottawa; "Dies for Various Clay Products," L. Haigh, Hadfield-Penfield Steel Co., Bucyrus, Ohio; "Experimental Work in Tile," F. L. Ferguson, B. S. A., Ontario Agricultural College, Guelph; "Porcelain and Pottery," Dr. C. T. Currelly, Director of the Royal Ontario Museum; "Possibilities of Improving the Brick Industry Through Organization, Standardization and Sales Promotion," Ralph P. Stoddard, Cleveland, manager of The Common Brick Manufacturers' Association of America; "Question Box," Millard F. Gibson.

On Tuesday evening there will be a theatre party for the delegates, including the ladies. Wednesday afternoon all of the visitors will be the guests of Dr. C. T. Currelly at the Royal Ontario Museum where there is one of the finest collections of pottery, porcelain and clay wares in the world, over \$2,000,000 worth of pottery having been added to the collection during the last two years. Wednesday evening will occur the annual banquet and the Secretary announces that it will surpass any that have gone before. Millard F. Gibson, of Toronto, will be toastmaster and the Reverend Byron Stauffer, a noted divine of that city, will be the chief orator.

Wm. Burgess, President of the Association, supplements the official program with a hearty invitation to all clayworkers of Canada, whether members of the Association or not, to come and participate. The sessions will extend over Thursday, and as President Burgess has made reservation for him-

self and wife at the Hotel Pennsylvania for the N. B. M. A. Convention the following week, he will probably come direct from Toronto to New York to again greet his friends on this side of the line.

NOTES FROM DIXIE LAND.

ARCHITECTS, contractors and brick people expect spring building to start in Memphis about on schedule time. Last year's aggregated figures showed up well, but residential construction was badly off. Business construction showed up very well indeed. There is considerable unfinished work on hand affected more or less by weather conditions. The new Palace Theatre seating 2,800 and built of brick with stone and terra cotta and tile adornments was opened to the public at Memphis, Saturday night, Jan. 15.

The B. Mifflin Hood Brick Co., of Atlanta, Ga., has established an office on the third floor of the Scimitar Bldg., Memphis, with C. W. McDowell in charge. Shipments will be made from their plants in various states. They will carry a full line of fancy brick and clay products.

F. R. Thomas Clay Products Co., Central Bank Bldg., Memphis, report activities good for the season on sewer pipe, tile and other clay products, but owing to winter conditions local business quiet, except a good deal of unfinished work.

The Moss-Devoy Brick Co. are active at their sales offices, 82 South Front St., Memphis, and at their plant in the suburbs.

Fischer Lime and Cement Co., at Memphis, and at their Little Rock place report January business quiet, but they are pushing to completion their new warehouse addition on Walnut St. and expect to see building activities open on a large scale in the spring and summer months.

Architects Chas. O. Pfeil and Geo. Awsumb, 1403 Union and Planters Bank Bldg., Memphis, will begin taking bids on March 1st for the municipal market and auditorium to be erected at Memphis on North Front St., between Exchange and Poplar Sts., with a frontage through that entire block on North Main St. The building will be 300 by 300 feet, portions three stories and basement and other portions five stories and basement. It will cost about \$2,000,000 and will be erected by the city of Memphis and Shelby County. The exterior will be of light shade and hard faced brick, with Bedford stone columns and trimmings. The roof will be of Spanish tile. There will be a terra cotta cornice and considerable hollow tile work in the building.

Architects Mahan and Broadwell, Memphis, have prepared plans for an addition to the Treadwell School, Highland Ave., to cost about \$65,000. It will be a hard pressed brick structure, two stories, with composition roof.

The Daughters of the American Revolution Chapters at Memphis, Nashville, Knoxville and other cities will begin construction of the Tennessee D. A. R. Hall, at Lincoln Memorial University, Harrogate, near Knoxville, to cost about \$25,000. Miss Mary Boyce Temple, of Knoxville, is Regent.

DIXIE.

HOLIDAY GREETING FROM "RYTT."

The following characteristic telegram is from the redoubtable I. A. Ryttenburg, "Rytt" for short, the discoverer of "Dixie" texture brick, which have made Sumter, S. C., famous.

Old man, I send a hearty New Year's greeting,  
I'm mighty glad to send it to you, too,  
And tell you 'bout the many kinds of gladness  
That ought to come to good old scouts like you;  
But since restricted space forbids the telling,  
Just let your old imagination shine,  
And tell yourself, each time you're extra jolly—  
Rytt wished it on me, that old friend of mine.

—RYTT.

Sumter, S. C., December 31, 1920.



## THE CERAMIST'S CORNER

*This is a department which appears in The Clay-Worker from time to time dealing with practical and technical matters of especial interest to the ceramist. This month we publish the current items on various matters pertaining particularly to the interests of manufacturers of the higher grade ceramic ware.*

### THE SUMMIT PORCELAIN COMPANY.

THE SUMMIT Porcelain Co., of Summit, N. J., recently filed articles of incorporation with the State Department in Trenton. The company is located at Park and Chestnut avenues, Summit, N. J., in the building formerly owned by Mr. E. F. Anderson, in which he carried on a merchandising business for several years. The officers of the company are: Mr. E. F. Anderson, president; Mr. Anthony Comfort, vice-president; Mr. E. C. DeDreux, treasurer, and Mr. E. L. McKirgan, secretary. It is the intention of the company to manufacture the highest grade of porcelain "standards" and "specialities." The plant is a three-story one, fireproof throughout. Some of the main features of the plant are that it is very centrally located and is of easy access to two large railroads. This indeed is a distinctive feature, as one of the most important requirements of an up-to-date plant of this character is good shipping facilities.

The company is indeed very fortunate in having obtained the services of Mr. Anthony Comfort as vice-president, one of the best known pottery men in the State of New Jersey, having formerly been connected with the Fernando C. Mesa plant at Irvington, N. J., one of the largest porcelain plants in the East, where he was general manager. Mr. Comfort will act not only as the vice-president of the company, but will also manage the business. He is now beginning his twenty-third year in the pottery business. This long period of experience will certainly be of great help to a new concern of this character, and we extend to them our heartiest wishes for success.

The machinery will be of the very latest type, furnished by the Crossley Machine Co., of Trenton. The slip house will be one of the most up-to-date slip units in the State. It is expected to start actual operation on or about the fifteenth of January, 1921. The company will at first build but two kilns, and as business warrants, others will be added in due time. Mr. Jack Lovatt, of Trenton, is building the kilns.

### POTTERS WANT UPWARD REVISION OF TARIFF.

Pottery manufacturers throughout the U. S. will appeal for an upward revision of tariff on pottery products when Congress takes up this question. The question, it is understood, was discussed at the recent convention of the United States Potters' Association in New York and as a result, arrangements were made for the executive committee of the organization to appear before the ways and means committee of Congress at Washington. Joseph W. Fordney, of Michigan, chairman of the ways and means committee favors duties upon the American market value of imported articles instead of upon foreign values.

### NEW DIRECTOR OF THE BUREAU OF MINES.

Dr. F. G. Cottrell, director of the United States Bureau of Mines, has resigned to become chairman of the division of chemistry and chemical technology of the National Research Council. In tendering his resignation Dr. Cottrell offered a strong endorsement of H. Foster Bain, of California, to suc-

ceed him. Mr. Bain, though hailing from California, was born at Seymour, Ind. Graduating from Moore's Hill College, Ind., in 1890, he spent two years at Johns Hopkins University and later received his doctor's degree from the University of Chicago.

### COLLOIDAL FUEL.

Over in England they are giving quite a lot of attention to what is called colloidal fuels. This is a mixture of coal in pulverized form with residual fuel oil. It is claimed that such a mixture combines advantages of both solid and liquid fuel. Time alone will tell whether or not this idea will gain any great foothold in this country and to what extent it may prove practical in the burning of clay wares. Where there are competitive offerings of coal and oil it is an idea that suggests itself as meriting a little research work to determine its practical virtues.

### THE GIRL POTTERY DESIGNER IN ENGLAND.

THE GIRL POTTERY designer in England, if she has had some art training, and has any luck, will probably start in a pottery factory on the interesting and responsible job of decorating stoneware with gold and enamel. If absolutely untrained she will be sent instead into the wet clay department where she will cut figures out of wet clay for embossed vessels.

After a stoneware vase has been turned on the potter's wheel it undergoes a prolonged treatment, which results in a specimen of so-called China pottery. Usually the first performance is to press a piece of lace firmly around the middle, which, when removed leaves a broad band of what looks like finely-cut engraving, after which the vase is "fired." Next the neck and foot are treated with broad washes and "under-glaze" colour, and it is "fired" again. This firing process requires seven days in a hot furnace into which salt is thrown in shovelfuls to produce the glaze.

The vase is now ready for its final decoration of gold and enamel, quite an interesting performance as watched in one of the large potteries. In a large upper room are seated a band of girl designers in charge of a competent manageress. The walls of the room are lined with shelves with vases finished and unfinished, which are carried on wooden trays to lessen the risk of breakages. Unless ordered to repeat a popular pattern each girl followed her own fancy of decoration of her vase, only taking care not to let her gold and enamel touch each other, as this would reveal itself in an intrusive purple patch after the final firing.

Painting tiles is included in a designer's work, also making water-color sketches of the wares for catalogs. Some women are likewise being employed in doing designs in water-colors and oils for biscuit ware (called Faience by the trade) a higher branch of the trade profession once reserved for men. All expert knowledge can, of course, only be obtained by practical experience in one of the large potteries which employ a regular staff of designers. Before seeking such a position, however, a good and sound training in designing can be obtained at the County Council Continuation Schools and other up-to-date art schools, the length of time required for proficiency depending chiefly on the natural ability of the student.

M. M.



RESEARCH GRADUATE ASSISTANTSHIPS  
UNIVERSITY OF ILLINOIS.

TO ASSIST in the conduct of engineering research and to extend and strengthen the field of its graduate work in engineering, the University of Illinois maintains fourteen Research Graduate Assistantships in the Engineering Experiment Station. Two other such assistantships have been established under the patronage of the Illinois Gas Association. These assistantships, for each of which there is an annual stipend of \$600 and freedom from all fees except the matriculation and diploma fees, are open to graduates of approved American and foreign universities and technical schools who are prepared to undertake graduate study in engineering, physics, or applied chemistry.

An appointment to the position of Research Graduate Assistant is made and must be accepted for two consecutive collegiate years, at the expiration of which period, if all requirements have been met, the degree of Master of Science will be conferred. Not more than half of the time of a Research Graduate Assistant is required in connection with the work of the department to which he is assigned, the remainder being available for graduate study.

Nominations to these positions, accompanied by assignments to special departments of the Engineering Experiment Station, are made from applications received by the director of the station each year not later than the first day of March. The nominations are made by the executive staff of the station, subject to the approval of the president of the university. Nominations are based upon the character, scholastic attainments, and promise of success in the principal line of study or research to which the candidate proposes to devote himself. Preference is given those applicants who have had some practical engineering experience following the completion of their undergraduate work. Appointments are made in the spring, and they become effective the first day of the following September. Vacancies may be filled by similar nominations and appointments at other times.

The Engineering Experiment Station, an organization within the College of Engineering, was established in 1903 for the purpose of conducting investigations in the various branches of engineering, and for the study of problems of importance to engineers and to the manufacturing and industrial interests of the state of Illinois. Research work and graduate study may be undertaken in architecture, architectural engineering, ceramic engineering, chemistry, civil engineering, electrical engineering, mechanical engineering, mining engineering, municipal and sanitary engineering, physics, railway engineering, and theoretical and applied mechanics.

The work of the Engineering Experiment Station is closely related to that of the College of Engineering, and the heads of departments in the college constitute the executive staff of the station. Investigations are carried on by members of the station staff and also by members of the instructional staff of the College of Engineering.

Additional information may be obtained by addressing the director, Engineering Experiment Station, University of Illinois, Urbana, Ill.

PROCEEDINGS AMERICAN SOCIETY FOR TESTING  
MATERIALS.

There has been received the proceedings of the Twenty-third Annual Meeting of the American Society for Testing Materials, held at Asbury Park, June 22, 25, 1920, in two volumes. Volume one contains committee reports and tentative standards, while volume two is made up of technical papers presented. The proceedings are published by the American Society for Testing Materials, 1315 Spruce Street,

Philadelphia, and constitute a valuable addition to scientific literature.

SEWER PIPE MANUFACTURERS OPTIMISTIC.

THE VITRIFIED clay sewer pipe manufacturers feel assured that their business will be good in 1921. In the first place, manufacturers of all sorts are agreed that the present state of affairs is not born of necessity or the lack of necessities, but is due to a state of mind. People don't buy, not because they can't buy, but because they don't want to buy.

In many lines of construction the banks are involved in this popular attitude. Banks have hesitated hitherto to finance building operations, not because they were out of funds, but because they did not want to finance a structure that might become less high priced by and by.

This difficulty, popular and financial, does not apply to sewer construction. The banks do not hesitate to buy municipal bonds for sewer construction. Such municipal obligations, from the priority given them by law, are today and always among the highest class of investment.

A city neighborhood may change, a city dwelling may deteriorate, a city pavement may wear out, but a city sewer, built of vitrified clay pipe, runs on forever. Clay pipes dug up out of Babylonia and Pompeii are evidence that there is no deterioration to this class of structure and the banks know it.

Labor on the Job.

So much for the material, but the vitrified clay pipe part of a sewer is only about one-fifth the total cost. The other four-fifths comprise principally digging the trench—labor. Now labor is once more willing to work and to work efficiently. Plans are now abroad in all large cities to consider ways and means for employing it.

What better way than to extend sewers, the basis of all municipal sanitary measures, sewers that ought reasonably to go ahead of pavements and the homes, so necessary in the near future, which must be served?

To proceed in any other order but this: sewers and water first, houses next, pavements and sidewalks next, would be a Chinese or hind-end-foremost way of doing things.

We have confidence that cities will be wise enough to see that. In fact the daily report issued to manufacturers by the "Public Works" Magazine names from a dozen to a score of cities every day that not only see it, but act on it by letting sewer contracts.

Turning from the financial to the sanitary aspects of sewer construction—this of course being its most important phase—we find everywhere a feeling of unusual watchfulness and anxiety for the public health on the part of responsible public health officers, municipal, state and federal.

Their present anxiety is well founded. Experience has taught them how dangerous is improper or insufficient housing, how favorable to the outbreak of epidemics is the present overcrowded condition of the populace.

Blue's Advice Heeded.

Surgeon General Blue's question so often asked during the war, "Has your community an adequate sewer system?" becomes even more pertinent now. The promptness and rigor with which the authorities pounced on East Chicago and Hammond, Ind., furnish an immediate illustration of their watchfulness and anxiety. Naturally they will become promoters of all possible sanitary measures and vitrified clay pipe sewers are the main artery of all municipal sanitation without which the sanitary frills displayed in drug stores avail nothing.

All signs then point to a prosperous 1921 for manufacturers of vitrified clay sewer pipe—the sound financial basis on which sewer building can be done, the available labor to do it, the fundamental necessity of doing the work first and promptly and the justifiable fear of consequences if it is not done.—Chicago Journal of Commerce.



## THE ROAD AND THE VEHICLE.

By R. E. Fulton.

AT A TIME when the long-standing national need for more and better highways is being substantially met by legislative appropriations in the hundred million dollar figures, it seems appropriate to ask the question: "What has made this huge expenditure possible and in what terms will the dividends from the investment be expressed?" It seems appropriate further to consider what is the basic idea behind this expenditure—who pays for these highways, for what purpose are they built, and who benefits by them.

Two classes of motor vehicles use our highways—the motor truck and the passenger car. About six per cent of the people in the United States own passenger cars, yet through the medium of the motor truck, every person in the country is directly benefited by the money that is spent for building highways. As a matter of fact, if the seven million people who own passenger cars were the only ones to derive benefit from the road, our government would scarcely be justified in spending for this purpose money which comes from the entire one hundred and fifteen millions. But since practically every article that is consumed or used by everyone in this country makes some part of its journey from producer to consumer in motor trucks, the entire population receives a dollar and cents return in the form of lower living costs, from the improvement in transportation which motor trucks and good roads make possible.

Adequate transportation is essential to general welfare and prosperity, and as conditions exist in the United States today, adequate transportation is impossible without the use of the motor truck. For example, suppose every motor truck in the country was suddenly put out of use. It would cause a paralysis of the railroads through inability to clear terminals; it would mean the cessation of practically all building operations through lack of materials; it would stop practically all passenger automobile operation as almost all gasoline and oil is transported to retail filling stations in motor trucks; it would tie up retail business in large cities to nearly a standstill and countless other situations equally serious would result. It is a fact that the average person does not realize how dependent he is upon motor transportation.

Good roads must be built if the country is to profit to the largest extent by the economic advantages of the motor truck, and if we are to have good roads then road financing must be placed on a sound economic basis. It is quite natural that the task of collecting and disbursing funds for supplying good roads should be undertaken by government in behalf of the people, since it is a national proposition and since there is no other agency large enough to handle the problem efficiently. It is a business arrangement, pure and simple—the original investment comes from the people of the country as a whole, while the upkeep and maintenance of the roads is paid for by the vehicles that use them in accordance with the amount of road wear each causes. The latter is, of course, a just arrangement under any conditions, yet the former—the investment on the part of the entire population of the country—is only justified through the use of the motor truck which gives each investor a return on his investment. In fact it is only through the increasing use of motor trucks that an enlarged road building program has been justified and is consequently possible.

Recent legislation stimulated by automobile owners has, in some instances, sacrificed the motor truck in the interest of passenger cars. It is obviously important that passenger car owners realize that if they are to have improved highways over which to travel, the expenditures for the roads must be economically justified and since the motor truck is the factor

which makes such expenditures justifiable, the automobile owner who attempts to hinder the growth of motor truck transportation, defeats his own purpose, which is to secure good roads.

The fact that the motor truck is entitled to favorable consideration in framing laws for highway regulation, does not mean that it should not be carefully governed. Every vehicle using the roads should pay for the road wear which it causes. This fact has long been acknowledged by all concerned with legislation pertaining to highway transportation. But as yet no law has been framed which will accomplish this end. The reason for this has been the lack of knowledge of the factors which enter into road wear. Recently, however, tests have been conducted at Washington which establish a definite and workable basis for road conserving legislation. These tests show that vehicle design in so far as it governs the proportion of sprung and unsprung weight is the most important controllable factor in road wear. A single example of the results of these tests shows clearly how great the importance of unsprung weight actually is. In one particular test it was found that a 5½-ton chain-driven truck delivered only 68 per cent of the road impact produced by a 3-ton shaft-driven truck. This was accounted for solely by the fact that in a chain-driven truck a much larger proportion of the driving mechanism is carried on the frame above the springs, whereas in a shaft-driven truck the final drive is all carried below the springs and strikes a direct solid blow on the road.

Every effort must be made to reduce road wear per ton of material moved as this has a direct bearing on the return which the people of the United States get from their investment in good highways. It can be proven by actual test that a well-constructed road will carry more useful loads before it wears out if 7½-ton chain-driven trucks are operated over it than if smaller trucks were used. Should not legislation be so framed as to favor large highway transportation units of this kind in order that our highway system may have the greatest possible productivity? In view of the fact that these units not only decrease road wear but also lessen road congestion and reduce the possibility of accident by their more moderate speed, there would seem to be but one logical answer to this question.

#### ENJOYABLE DINNER GIVEN BY NEW JERSEY CLAY MINERS AND MANUFACTURERS' ASSOCIATION.

THE ANNUAL MEETING of the New Jersey Clay Miners and Manufacturers' Association which was scheduled for December 15, at Perth Amboy, took the form of a dinner at the Elks Club. All the arrangements were in charge of a committee under the direction of Fred A. Whitaker, superintendent of the General Ceramics Co., Keasbey. All business was tabooed, even the annual election of officers being deferred until a later date, when the entire list of officers will probably be re-elected, and the entire evening given over to the dinner and entertainment consisting of a number of fine speeches and vaudeville stunts by New York artists. One of the pleasing features was the presentation of a handsome diamond and emerald scarf pin to Malcolm McHose, secretary of the Association, by John Pfeiffer on behalf of the members, as Mr. McHose was to be married the following day.

The officers of the Association who have served continuously ever since the origin of the organization are: President, L. H. McHose, McHose Clay Co., Perth Amboy; vice-president, F. R. Valentine, M. D. Valentine & Bro. Co., Woodbridge; treasurer, August Staudt, Perth Amboy Tile Works, Perth Amboy, and secretary, Malcolm M. McHose, McHose Clay Co., Perth Amboy.

More than fifty members and guests were present and all voted it one of the best affairs the Association members had ever sponsored.



## THE AEROPLANE OF REAL SERVICE IN COMMERCE.

THE LOCOMOTIVE CRANE COMPANY of America, Champaign, Illinois, the manufacturers of the Little Giant Road Crane, are, we believe, one of the first concerns in the mechanical line to make use of the aeroplane in rendering to their customers the ultimate in service.

The Ferguson Coal Company, of Chicago, have been operating a Little Giant Road Crane and enjoying the advantages of mechanical over manual handling to the extent that they felt they could not afford to have their crane out of service any longer than absolutely necessary to restore it to working order, for they realized that every operating minute counts.

A few days ago their crane was forced to shut down, due



## THE INTEREST IN OIL SHALES.

We have a right to be interested in our oil shale resources because they are big things in the way of future reserves. We should bear in mind, however, that being interested in them is one thing, and being talked into making investments in oil shale companies is something different, and something to be guarded against carefully at the present time, because we have not reached that point where we can profitably draw upon these reserves.

In making a world review of the oil supply in a paper for the American Petroleum Institute, George Otis Smith, director of the U. S. Geological Survey, says:

"The resources of the world's oil shale are far too large to be lost sight of as a substitute source of oil. The United States alone is believed to possess deposits of oil shale that contain at least ten times as much oil as there is natural petroleum available in North America, but oil won by mining and distilling these shales, situated in the interior of a continent, cannot enter the world's markets as labor-cheap as the petroleum that flows from Mexican wells close to the coast. Such resources must, therefore, be regarded as a rear line of economic defense and as a source of power that will



Aeroplane Used in Emergency and Delivers Much Needed Material in Record Time.

to the accidental breaking of one of the smaller parts. Now a small part of their crane is not a small part in a strict sense of the word, but one of considerable dimensions.

Realizing the necessity of getting their crane working again at the earliest possible moment, they telephoned the Locomotive Crane Company of America, at 3:30 in the afternoon. Champaign is some 135 miles from Chicago, but at their request the crane company volunteered to get the parts there that day and did so. They telephoned to Rantoul, which is not far from Champaign, and secured the use of two aeroplanes. These were loaded with the necessary parts and arrived some two hours later at Checkerboard Field, where a truck from the coal company awaited them.

We believe this is one of the first instances of the use of the aeroplane for the transportation of mechanical parts in order to save the loss of valuable time occasioned by a shut-down.

be of greater value to other generations than to this, even if a more general utilization of oil shales begins in the near future. No other continent is known to have resources of oil shales at all comparable with those of North America."

So while we should be interested in our oil shale resources and should chart them and keep them in mind we should probably regard them as future reserves rather than consider them as a basis for wild-cat exploitation.

Our federal reserve system of banking has been on trial and so far has given an excellent account of itself.

The big items of cost in brick making are fuel and labor. This means that the big opportunities for cost reduction are in fuel saving and labor saving devices.

We keep saying that we need more men trained to lay brick, but who can tell us just what is being done about it—how much progress is actually being made in this work?



# POINTS ON PLANT MANAGEMENT

*Among the Important Essentials in Good Plant Management We May Class Fair Wages, Fair Treatment of Employes and Surrounding Conditions Which Will Invite and Retain the More Efficient and Desirable Workmen for the Industry.*

## THIRD CHAPTER.

RIGHT NOW there is not a more timely or more important subject in connection with plant management than that of the wages paid, the treatment accorded and the conditions surrounding the workers in the plant. Good plant management means efficient production, and efficient production depends quite largely upon the qualities of men which an industry invites and retains among its workers. To set this forth plainly, it means that the clayworking industry must maintain a scale of wages which will prove inviting in competition with other industries of the country if it would obtain and hold a desirable class of men among its workers. The desirable men seek for good wages, good treatment and the best practical conditions surrounding their work that they may find fair measure of comfort, pleasure and pride in their calling, and the clayworking industry must bid against many other industries which have shown a keen interest in the welfare of their workers and in paying them a goodly wage.

This is a point of peculiar importance right now because we are going through a period of deflation which involves revising prices and wages downward, which if followed recklessly may lead to a return of old-time conditions in the clayworking industry where it is not practical to pay a fair wage and make a decent profit from the business. That is one of the things we should seek to avoid. In figuring upon the probable limit of the price reductions in brick and other clay products for the year the clayworker should take stock of the situation carefully. Prices must be based on cost, plus a fair margin of profit, and in figuring out this item of cost let the industry not overlook the fact that if it would have plenty of help of a desirable character it must pay wages that will prove inviting to desirable men as compared to wages and working conditions in other industries. In some instances the scale of wages will necessarily be higher than other industries which have more inviting surroundings. Clay working often involves rough, rugged work in surroundings not so inviting as, say in the furniture factory or wood-working plant, consequently there must be a stronger appeal in the wage rate, which will often mean a higher scale than other industries instead of a lower one.

The idea here is to make an appeal for good wages and good men on the theory that good men are essential to efficient production, and on the basis that it is production, not the hours of work which determines the value of the compensation. This plea is being made, too, in the face of a thorough understanding that the tendency in the whole industrial world lately has been toward liquidating inflated wage scales and striving for greater efficiency or greater production on the part of workers.

We have been passing through a period where there was seemingly no need to make an appeal for industry to pay fair wage, because the shortage of workers led to many arbitrary demands of high wages with a tendency to loaf on the job and not produce efficiently. This is a condition, however, that is now being corrected. Forces are being curtailed, productiveness is being improved, and a general readjustment

is going forward which may lead to another extreme that will be equally objectionable. It would be just as big a mistake to pinch and squeeze down on the workers of the country, because many of them are temporarily out of employment, as it has been for the workers themselves to display the arrogant attitude which prevailed during a great part of the present year. What we need now is to find some fair and logical middle ground between these two extremes and get together upon it for the good of all. That is what the industrial world as a whole will likely do during the year 1921. And, if the clayworking industry would hold its good men and make the progress it should, every man in it must consider this subject seriously, canvass the situation thoroughly and figure that the way to business stability and development is through paying a fair wage scale and insisting upon a price for his product that will enable him to do this and get a fair profit from his business.

It is much easier, of course, to say all this than it is to set forth in detail what may constitute a fair wage scale. It will take time, earnest effort and a swapping of ideas and comparing of notes by plant managers to determine what ought to constitute a fair wage rate for the men engaged in the different parts of work in preparing and burning clay. From past experiences we can glean an idea here and there which may be worth something as pointing the possibilities of the future.

For example, reports of conditions during and after the Civil war say that taking 100 as the wage basis prior to the war, the wage rate reached a war peak of 160 and a later permanency of 140. In other words, while there was some deflation of wages, as well as prices, there never was a return to pre-war conditions in the matter of wages. The explanation of this is found largely in the fact that the invention of labor saving machinery and devices helped increase the productiveness of labor so that it was able to earn the higher wage and yet meet the competition of the outside world. We may expect something of the same thing to follow now, that wages will be reduced somewhat, but not back to the low level, even though the price of many commodities may go back to something near the pre-war basis. The relation of the wage scale to the cost, and consequently the price, will depend materially upon increasing the productiveness of labor, partly by more intelligent and earnest effort on the part of labor itself, but mainly through the development of better methods and the use of more mechanical devices and labor saving machinery to lessen the burden and increase the production yield per man.

The main point it is sought to impress now is that in this stage of readjustment of wage scales and working conditions the clayworking industry must figure on paying a price for its work in keeping with prices paid in other industries, and even better in many instances to invite the more desirable workers, and thus keep the industry on a better basis through being better manned. The matter of detail will vary and will be governed largely by local conditions, but this is a spirit that should prevail and a doctrine that should be followed.



H. C. Kleymeyer, of the Standard Brick Manufacturing Co., Evansville, Ind., when asked for an opinion upon this subject, voiced a logical and sound attitude by saying that he considers that he has an obligation toward his employees. Next to his own family the welfare of his employees are matters of direct concern to himself and to his business. Moreover he said he had had occasion to set forth his attitude when people had complained to him about the high price of brick. He said he felt it his duty to pay the men who worked for him wages in keeping with the costs of the necessities of life, as well as meet the scale paid by other industries. In short, it is not merely a matter of bidding against other industries to secure help, but the interest and obligation of an employer goes beyond that and includes the well being of the workers and their families. That is a logical attitude to maintain, and that is the basis a man must figure upon in determining the probable cost and selling price of his product from time to time.

#### THE RATE OF WAGE AND AVERAGE WORKING HOURS.

THE PRELIMINARY REPORT from the Census Bureau contains some interesting matter in regard to average and classified hours worked per week day, and earnings per hour and occupation of employees, pay roll period, etc., on clay plants.

From statistics gathered in Illinois, Indiana, Iowa, Missouri, New Jersey, New York, Pennsylvania, California, Michigan and Ohio, thirty-three establishments reporting show for brick tenders an average day period of 8.8 hours, with average earnings per hour of 48 cents; for grinding machine tenders, 8.1 hours, with average earnings of 44 cents; for kiln firemen, 11 hours, with 42½ cents per hour average; for kiln setters, 7 hours at 56 cents per hour; laborers, 7.7 hours at 43 cents per hour; bodies and wheelers, 6.7 hours, at 56 cents per hour; off-bearers, 7 hours at 44 cents per hour, and puggers, 7.8 hours at 47 cents per hour.

The fact that this is only an estimate based on report of 33 plants does not give us much of an idea as to real existing conditions. For instance, in a letter recently received from a drain tile manufacturer, the average rate of wages per hour was given as follows: Grinding machine tenders, 51½ cents; puggers, 47½ cents; pressmen, 50 cents; off bearers, 45 cents, kiln setters, 61 cents; truckers, 55 cents and yard laborers, 40 cents.

#### SKILLED WORKMEN GREAT NEED IN BUILDING TRADES.

SENATOR WILLIAM M. CALDER, of New York, who, as chairman of the Senate Special Committee on Reconstruction and Production, recently completed a nation-wide survey of the housing situation of the country, visiting most of the larger cities as far west as Denver, and receiving answers to questionnaires from every city and village in the United States, believes that one of the most important problems facing the nation today is that of obtaining sufficient skilled workmen in the building trades, and the senator has written letters to the governor of every state in the union, urging that steps be taken to establish grade schools in the several states for the purpose of encouraging young men to learn trades. Senator Calder believes that the building trades offer opportunity for young Americans unequalled in any other line of business in the country.

There was once a Chinaman who saw an automobile for the first time and he said: "No pushy, no pully, go like helly," and that's just the way with the American Gasoline Locomotive. It isn't as big as a mountain but it works like—everything.—American Clay Magazine.

#### HOLIDAY GREETINGS AND CALENDAR SHOWER.

IF THERE is anything in thought transmission, 1921 ought to be a most happy and prosperous New Year for the entire Clay-Worker force, judging from the flood of cards, letters and telegrams that made the postman look like a hunchback as he stumbled into our sanctum sanctorum, loaded down with his precious cargo. We had better qualify the last expression by saying our postman is not a member of the White Mule party, but a sober, bright fellow, who has been delivering our mail for nearly eleven years, and takes as much interest in our welfare as any postmaster in a town of 200 inhabitants could manifest.

Space will not permit the publication of the names of firms and individuals sending the greetings so we take this means of thanking them collectively for their well wishes which are reciprocated in this fashion.

Particularly pleasing was a new year's greeting from that highly esteemed ceramist of Helsingborg, Sweden, G. Wson Cronquist. A cablegram from Manchester, England, containing greetings from our friend, Sidney Higgins, a prominent English clay product manufacturer, was another highly appreciated message.

Besides the hundreds of cards, letters and telegrams, we received many souvenirs and attractive calendars.

Combination calendar and memo pads were received from the Stevenson Co., Wellsville, Ohio, and Alton Brick Co., Alton, Ill., very practical and artistic gifts, as were the substantial letter openers from Geo. H. Clippert & Bro., Detroit, Mich., and the manufacturers of the "Tee-Pee-Moka" brand of face brick, "The Stuff You Build Homes With," Dominion Fire Brick and Clay Products Co., Moose Jaw, Saskatchewan, Canada.

Handy vest pocket memorandum books were received from The Bonnot Co., Canton, Ohio, Hadfield Penfield Steel Co., Bucyrus, Ohio, and Wm. E. Dee Clay Mfg. Co., Indianapolis, Ind., and Roessler-Hasslach Chemical Co., New York City.

The Weller Mfg. Co., Chicago, Ill., presented us with a handsome glass paper weight, while the Indianapolis Terra Cotta Co. extended their greetings in the shape of a terra cotta book end.

An immense sack of fine walnuts came in from our old friend, Will P. Blair.

The calendar shower was as refreshing this year as in years past, so our office walls are decorated with the greetings from such firms and individuals as, Roessler-Hasslach Chemical Co., New York City; Carolina Brick Co., Florence, S. C.; Geo. H. Clippert & Bro., Detroit, Mich.; C. K. Williams & Co., Easton, Pa.; The Tuttle Brick Co., Middletown, Conn.; E. M. Freese & Co., Galion, Ohio; Easton Car and Construction Co., New York City; Walt Mining Car Wheel Co., Barnesville, Ohio, and H. A. Wheeler, E. M., St. Louis, Mo.

#### ESTIMATING AND DETAIL LITERATURE.

One of the weak points heretofore in the exploiting of all clay products from the common brick to terra cotta has been the lack of literature, illustrations and practical details of using the product. That is one thing every clayworker should get busy at getting together and having for distribution—folders, pamphlets, and hand books showing details of construction and methods for estimation quantities and cost. The Fraser Brick Co., Dallas, Texas, has been doing some booklet work of this kind, one of their publications being a booklet on details of estimating and ordering interlocking tile. Other individual concerns and the different organizations in the industry are also developing this class of literature now. It is a good thing and there is room for plenty more. Keep it up until this kind of literature is familiar to both building contractors and the general public.



## BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.



BUILDING OPERATIONS in Evansville and other towns in southern Indiana have been rather slow for the past two or three months and not much improvement in the building line is expected until along about the first of March, if then. Brick men say that things have been unusually dull for some time past and tile manufacturers also report there is little doing in their line. The building permits in the city of Evansville in 1920 exceeded those issued during the previous year. The month of December, however, showed a falling off of about \$518,000 over the corresponding month of the year before. There is little construction work going on now in the city of Evansville, although some building has been planned for the present year. Builders or prospective builders have been holding off for several months past in the hope that things would get cheaper. Lumber dealers claim that their prices now are about on the level with the prices that prevailed during 1914, but contend that brick, labor, lime, cement and in fact most of the other building materials have not dropped in price in proportion to lumber. While it is believed there will be some building during 1921 it is the opinion of contractors that the building game is going to be slow to start owing to the business depression that prevails in almost every line over the country.

Four hundred employes of the Clay Products Company at Brazil, Ind., received life insurance policies of face values of \$500 as Christmas presents from the company. The face value of each policy will be increased one hundred dollars for each year that the holder stays in the employ of the concern.

The building program for Brazil, Ind., for 1921, indicates a busy year. The First Presbyterian congregation will erect a new church during the year that will cost about \$75,000. One new school building probably will be built in the city or substantial repairs and extensions made to the Meridian and Lambert Street buildings. A new city sewage disposal plant will be constructed. The Van Buren township consolidated school will also be built during the year at a cost of about \$80,000. The Citizens' Theatre Company, recently organized at Brazil, will erect a \$100,000 theatre. Dr. James A. Rawley, associated with three physicians and surgeons, late of the Mayo Brothers, will erect a hospital and clinic in Brazil.

John Andres, secretary and treasurer of the Standard Brick Manufacturing Company, has retired as president of the water works board at Evansville, which position he filled during the past year. He, however, remains a member of the board and a very valuable one at that.

The building permits at Petersburg, fifty miles north of Evansville, during the past year showed an increase of more than 500 per cent. over the previous year. There is a great deal of building now being done in that town to take care of the growing population.

A great many brick will be used in the construction of the large government hospital to be built by the United States government at Dawson Springs, Ky., a few miles below Evansville. Some of the materials for this large hospital will be purchased in Evansville.

A great deal of work has been done during the past year on the new government dam across the Ohio river, seventeen miles below Evansville, and it is expected that the present year will see the completion of this great piece of construction work that will cost in the neighborhood of \$2,500,000.

A HOOSIER.

Promoting face brick propaganda means helping put a better face on the beauty of architecture.

## WELLER STORAGE PLANTS.

UNDER THE ABOVE title, the Weller Manufacturing Company, Chicago, has issued a very interesting catalogue profusely illustrated with views of their plant and products, some of which are enumerated in their ad on page 61 of this issue. They make a specialty of conveying machinery and appliances of all sorts. Weller belt conveyors embody every principle of design and construction which counts for economy and efficiency in modern belt conveyor practice. They also supply storage bins, both permanent and portable which are made in standard units which insures the greatest strength and durability.

It is an admitted fact that labor-saving machinery must take the place of manual labor and the Weller Manufacturing Company has a corps of expert engineers who plan and build labor-saving devices in their chosen field which are adapted to the use of builders and the producers of building materials, such as brick, cement, sand, gravel, etc., etc.

Their coal storage bins have proven very popular. One of the illustrations in the catalogue is that of a set of coal bins with a complete handling system which they furnished the Camp Brick Company in 1916. Coal is received in drop bottom cars, which deliver it into the steel track hopper. The bottom of this hopper is fitted with an apron feeder which carries the coal over and delivers to the bucket elevator. This elevator of the gravity discharge type is so arranged as to elevate the coal a certain height and then convey it across to the distributing conveyor. In the conveying operation, the coal is scraped over a bar screen or grizzly, removing fine coal which is spouted to the boiler room while the clean lump coal passes into the bins. One man will easily handle the operation, with time to spare. The power required is about one-horse power and an average car may be passed into storage in about two hours. A copy of the catalogue, Bulletin 105, may be had for the asking, and the Weller Manufacturing Company welcomes inquiries and when accompanied by data that will enable them to do so, will gladly estimate cost of equipment and supply all necessary information for the proper installation and operation of same.

## EVANSVILLE BRICK MAN HONORED.

A high honor came to Henry C. Kleymeyer, president and general manager of the Standard Brick Manufacturing Company at Evansville, a few days ago when he was elected president of the Chamber of Commerce of that city to serve during the ensuing year. His selection was made by the board of directors and was by acclamation. Mr. Kleymeyer has announced that during his term of office there is going to be closer co-operation with the city administration and that he expects to accomplish a great deal for the city in this way. Mr. Kleymeyer's many friends are predicting that he will make one of the best presidents that the Chamber of Commerce has ever had. He is a man who has made a success of his own business and he has always stood for the things that meant the up-building of Evansville.

The Kankakee Tile and Brick Company, at Kankakee, Ill., announced a few days ago that its two plants would be shut down because of the lack of orders. The company, however, announced the payment of a bonus to the 200 employes, amounting to \$6,000.

Michael D. Helfrich, head of a big pottery in Evansville, is at the head of a company that is building a large saw mill in that city that is expected to be ready for operation by the first of February.



# AMERICAN CERAMIC SOCIETY CONVENTION.

THE TWENTY-THIRD annual meeting of the American Ceramic Society will be held at Columbus, Ohio, February 21, 22, 23 and 24, with Hotel Deschler headquarters.

This should prove one of the most successful conventions in the history of that technical organization, for Columbus is centrally located, in the heart of the great ceramic industry, the state of Ohio leading in many branches of the clay craft. A night's ride in any direction from Columbus will take one to the outskirts of the circle surrounding the majority of the ceramic plants of the country, so that little time need be spent in travel.

In the great state of Ohio there is operated nearly every kind of ceramic plant, so that with the added attraction of the Ohio State University with its ceramic school, the meeting place this year will be a strong magnet pulling a large attendance from all directions.

The program will be along the same general lines as in former years. The committee on papers and programs is making a special effort to make the twenty-third annual meeting the most interesting and valuable from the standpoint of ceramic technology in the history of the Society. There will be a session devoted to firing of kilns, which will cover all the different phases and types. Another session will be devoted to discussion of sagger problem. Business sessions will be held Monday morning and Wednesday afternoon. Divisional meetings will be held in the usual way as customary with the practice of the American Ceramic Society.

The Section Q meeting will be held Monday night at which the dramatic and musical organizations of Ohio State University are expected to entertain the members. The banquet will be held Tuesday evening. Trips to various points of interest are scheduled for Thursday. Special efforts are being put forth to entertain the ladies, Mrs. Arthur Watts having this part of the entertainment program in charge.

Mr. R. C. Purdy has been appointed to organize the Division of Brick and Tile, which has been styled the Heavy Clay Products Division. This includes not only brick and tile but also sewer pipe and kindred products.

## OBITUARY.

### PIONEER CERAMIST AND POTTER PASSES AWAY.

It is with much regret we announce the death of Ernest P. Mayer, of Beaver Falls, Pa., which occurred recently. Mr. Mayer was at the head of the Mayer China Company, and had many warm friends throughout the industry. He was a pioneer member of the American Ceramic Society, having served as president of the Society at Cleveland in 1902, and had contributed freely of his time and knowledge in the ceramic field. He had a laboratory at his home, where he carried on much important research work aside from his arduous duties at the plant. He will be sadly missed at the coming annual gathering of ceramists at Columbus.

### TENNESSEE BRICK MAN DIES FOLLOWING AN OPERATION.

John D. Key, president and general manager of the Key-James Brick Company, of Chattanooga, Tenn., died January 1, at the Erlanger Hospital, where he had undergone an operation for appendicitis a few days before. Mr. Key was the picture of rugged health and the news of his death was a great shock to his large circle of friends. Mr. Key was forty-five years old and had been engaged in the clayworking business for a number of years, first in the sewer pipe line, and later in

the brick business, in which he had been quite successful. Mr. Key is survived by a mother and two sisters.

### DEATH OF MRS. H. J. FLOOD.

The many friends of Harry J. Flood, of the Chisholm, Boyd & White Co., Chicago, will sincerely mourn with him in the death of Mrs. Flood, which occurred at their home Sunday morning, December 26th. Mrs. Flood had been in poor health for some time, but no serious results were anticipated. Her death was caused by heart failure.

### QUITS BUREAU OF STANDARDS FOR COMMERCIAL FIELD.

Homer F. Staley, who has been associated with the ceramic division of the Bureau of Standards at Washington for several years, has resigned to take a position with the Metal and Thermit Corporation, New York City, as ceramic engineer. This concern operates four plants, one each at Jersey City, N. J., Bayonne, N. J., East Chicago, Ind., and San Francisco. The Indiana plant is the largest, covering fifteen acres, and will be used by the company as its chief factory for the manufacture of tin oxide. The other products of the company are thermit, used in large quantities in the welding industries, and chromium, and it now expects to develop a business in ceramic oxides. It is in the latter work that Mr. Staley will be chiefly interested as ceramic engineer, at a salary that is unusually attractive. Announcement has not as yet been made of Mr. Staley's successor in the Bureau of Standards.

### A CLUB WITH A PURPOSE.

The officers and employes of the Hadfield-Penfield Steel Co., Bucyrus, Ohio, have organized within themselves a club, the purpose of which is to promote loyalty and closer co-operation among the employes and departments of the company, and to co-operate with the management of the company in conducting its affairs whenever possible. One of the features of the club is an annual dinner, which was held Friday evening, January 14, at the Elks' Club in Bucyrus. In addition to the good things for the inner man, there was an interesting program of speeches. A fitting finale is given in the printed program under the title:

#### SKIM MILK OR CREAM; WHICH?

Al. Hamilton, the wise old gink,  
Set out to teach men how to think.  
  
At first he wrote a book or two  
But soon he saw the good they'd do,  
  
And so he added to his store,  
Until he had just twenty-four.  
  
An eager public Al's books read  
And so his fame was quickly spread.  
  
Al. started then to forming clubs  
To separate good men from dubs.  
  
Though difficult this task might seem,  
'Twas like divorcing milk from cream.  
  
The studious ones like good cream rise,  
To draw from life an "A" grade prize,  
  
While laggards are as sure to fail,  
And find a place in the "skim milk" pail.

High ideals are what point the way to higher attainment and greater esteem in the eyes of your fellow man.



OFFICIAL ANNOUNCEMENT.



THIRTY-FIFTH ANNUAL CONVENTION  
TO BE HELD IN NEW YORK CITY,  
JAN. 31 TO FEB. 5, 1921.

Common Brick Manufacturers' Association and the  
National Brick Manufacturers' Association to  
Meet for Second Time in Annual

THE THIRTY-FIFTH ANNUAL CONVENTION of the National Brick Manufacturers' Association will be held at New York City, January 31 to February 5, 1921, in conjunction with the second annual meeting of the Common Brick Manufacturers' Association of America. It is anticipated that there will be a record breaking attendance.

Father Knickerbocker bids the members of the clay crafts to again assemble within the gates of his greatest city and promises all who do so a most royal welcome and a feast of good things such as no other municipality in the world can offer.

Broadway is more brilliant today than ever before and the avenues of pleasure to which it leads beckon to the members of the N. B. M. A. and all affiliated organizations, bidding them come and enjoy a week of recreation intermingled with shop talk and interchange of trade lore which will leave every participant better equipped for the ensuing year's business than he could otherwise hope for.

Members of the N. B. M. A. will remember with pleasure the delightful week spent with Father Knickerbocker in March, 1917, when for the first time in its thirty-odd years of meandering the brick and tile manufacturers of the United States and Canada gathered in New York City. They learned at that time that the greatest city in the world is really a fine convention town, in spite of the many attractions that lead visitors to go sightseeing both day and night. Notwithstanding all this, the sessions of the convention were well attended and the social functions ditto.

Reduced Railroad Rates and How to Get Them.

As in prewar times we have been granted reduced railroad rates on the certificate plan by the Trunk Line Association, the Central Passenger, the Southwestern Passenger and the Western Passenger Associations concurring. Those coming from points beyond the lines of these associations, as shown by the accompanying map, can purchase to the nearest junction point within the lines and there purchase and take a certificate for each full fare paid going. The certificate when properly vised entitles the purchaser to a return ticket at one-half the fare paid going, making a reduc-

tion of one-fourth the round trip fare. The concession is granted with the proviso that 350 acceptable certificates are issued, so it is urged that every delegate take a certificate for himself and each member of the firm, family or party for whom a full fare is paid. As our attendance has been averaging 500 it is anticipated that the requisite number will be reached and some to spare.

Certificate must be obtained from the railroad ticket agent at starting point (or nearest station issuing tickets to New York City) same to be given to the secretary on arrival, to be countersigned by him and vised by the representative of the Trunk Line Association. Tickets may be purchased January 27 to February 2, inclusive, and the return ticket will be good returning until and including February 9. It is suggested that members arrange for their tickets a day or two in advance of their intended journey, in order to insure the receipt of proper certificate, for without it no reduction will be granted. Delegates must have the regular form of certificate, not an ordinary receipt for fare paid.

Pennsylvania Hotel Headquarters.

The famous Hotel Pennsylvania will be headquarters during the Convention. It is the world's largest hotel, but more important and interesting than that is that it is a great hotel of character and distinction, the New York home of many thousands of discriminating travelers who want the best the world's greatest city can provide, and they find it in the Hotel Pennsylvania. It has twenty-two hundred guest rooms, each

N. B. M. A. Convention Calendar

|                   |                                                                                                                           |
|-------------------|---------------------------------------------------------------------------------------------------------------------------|
| Monday, Jan. 31   | Registration of Delegates and Guests both Associations in joint Registration Room adjoining Convention Hall.              |
| 2:00 P. M.        | Meeting Board of Directors, C. B. M. A.                                                                                   |
| 4:00 P. M.        | Meeting Executive Committee, N. B. M. A.                                                                                  |
| Tuesday, Feb. 1   | Joint session, N. B. M. A. and C. B. M. A., Convention Hall.                                                              |
| 10:00 A. M.       |                                                                                                                           |
| 7:00 P. M.        | Informal Reception and Smokerette for all delegates and visitors, including the ladies, Banquet Hall, Pennsylvania Hotel. |
| Wednesday, Feb. 2 | Second session, C. B. M. A., Convention Hall.                                                                             |
| 10:00 A. M.       | Validation of Railroad Certificates by Representative of Trunk Line Association.                                          |
| 12:00 Noon        | Second session, N. B. M. A., Convention Hall.                                                                             |
| 3:00 P. M.        | Validation Railroad Certificates by Representative Central Passenger Association.                                         |
| 3:00 P. M.        | Meeting of Brickmakers of Connecticut District, Convention Hall.                                                          |

Reduced Railroad Rates to New York City on Certificate



with a bath, and is directly opposite the New York terminal of the Pennsylvania Railway system. In fact, it is connected with same by a subway, so visitors do not have to take the risk of crossing a busy thoroughfare, but instead may call a "red head" to lug the luggage and stroll leisurely to the spacious and beautiful lobby, where polite attendants will receive

The Pennsylvania is as nearly absolutely fire-proof as a building can be, being built of brick, terra cotta, and tile, metal and stone, with wood eliminated to an extent which would have been impossible a few years ago.

#### Reasonable Hotel Rates.

The rates at the Hotel Pennsylvania are very reasonable considering service and equipment. There is a rate card in every room, giving the price which ranges from \$4.00 for a single room to \$6.00 for a room for two, with double bed. If separate beds are preferred, the rate will be \$7.00 and up according to location. Where three or four persons occupy a room together with single beds the rate will be \$10.00 and \$12.00 per day per room.

One of the praiseworthy general features of this biggest hotel is the variety of accommodations from a luxurious suite of many rooms to a small single room. Also one may choose among many restaurants, and every facility is provided for entertaining in one's own sitting room, or in a private dining room.

The Pennsylvania is located conveniently to the shopping districts and the theatre districts, and the business district

are easily reached by subway, which has a station in the hotel. Bus lines and surface cars pass the door and the elevated railway is but a block away.

#### The Convention Hall.

The sessions of the convention will be held in the convention hall on the mezzanine floor of the hotel. There will be a joint registration room in the ante room to same, where all delegates are requested to report on arrival to be properly badged and registered. Any of the auxiliary associations which may desire will be accommodated in other convention halls in the hotel.

The machinery and supply dealers will rendezvous on the 100 or first guest floor convenient to the convention hall.

#### N. B. M. A. Official Bulletin.

The headquarters of the various "trade missionaries" and officials of the various organizations and the exact time and place of the meetings will be announced on the N. B. M. A. illuminated bulletin in the main lobby of the Pennsylvania Hotel.

#### The Smokerette.

The informal reception tendered by the local Committee on Entertainment will be held Wednesday evening in one of the dining rooms of the hotel. Delegates and those accompanying them, including the ladies will participate. Music, dancing and other amusement features will make the evening a memorable one. The association badge of membership is the only requisite of admission.

#### The Annual Banquet.

The social event of the week, the joint banquet will occur Thursday evening in the banquet hall of the hotel. As in former years it will be a subscription dinner under the auspices of the Executive Committee of the N. B. M. A. and C. B. M. A., with the assistance of the Local Entertainment Committee. Distinguished guests and orators of note will be present and respond to appropriate toasts. Members are expected to bring their wives, daughters, or sweethearts, as the case may be. Full evening dress is in order, but is not essential.

#### Souvenir Badge and Number Button.

An appropriate souvenir badge and number will be presented to each delegate, and a guest badge to those accompanying them, same being furnished with the compliments of the local committee.

#### Entertainment of Ladies.

A special committee having in charge the entertainment of the ladies will provide various amusements, such as matinee parties, auto trips, shopping tours, etc.

A special program of the local events will be distributed by the secretary of the local Committee on Entertainment at the headquarters room.

#### N. B. M. A. Sessions Open to the Public.

All sessions of the National Association are open to the public. Those interested in the discussion of the various questions pertaining to better building and kindred themes will be welcome.

Those interested, directly or indirectly, in clay work of any character or the use of clay products of any sort are invited to join the association and participate in the proceedings of

|                  |                                                                                                                                                                                |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Thursday, Feb. 3 | Third session, N. B. M. A.,                                                                                                                                                    |
| 10:00 A. M.      | Convention Hall.                                                                                                                                                               |
| 10:00 A. M.      | Validation Railroad Certificates by Representative Trunk Line Association.                                                                                                     |
| 12:00 Noon       | Third session, C. B. M. A. Convention Hall.                                                                                                                                    |
| 3:00 P. M.       | Meeting of Brickmakers of Eastern Pennsylvania, New Jersey and Delaware, Convention Hall.                                                                                      |
| 3:00 P. M.       | Validation Railroad Certificates, Representative Trunk Line Association.                                                                                                       |
| 7:00 P. M.       | Annual Banquet N. B. M. A. and C. B. M. A., and all visitors including ladies, Banquet Hall, Pennsylvania Hotel.                                                               |
| Friday, Feb. 4   | Final session N. B. M. A.,                                                                                                                                                     |
| 10:00 A. M.      | Convention Hall.                                                                                                                                                               |
| Saturday, Feb. 5 | Visit to Metropolitan Museum of Art (The buses pass the door of the Pennsylvania Hotel) and other points of interest under the direction of the Local Entertainment Committee. |

## Plan Affording Low Round Trip Rate to N B M A Convention



the convention. Members and their families or friends who may accompany them will be expected to participate in all the entertainments and proceedings.

All Affiliated Associations Invited to Participate.

The National Clay Machinery Manufacturers' Association will hold its annual meeting during the week, as will also the local sections of the American Ceramic Society, the common, paving and face brick manufacturers, and the makers of sewer pipe, hollow tile and terra cotta are invited to participate, thus insuring a representative gathering of all the clay products manufacturers of the nation.

Those desiring further information as to requisite of membership in the N. B. M. A., formal program, etc., are requested to communicate with the secretary at Indianapolis.

THE EXECUTIVE COMMITTEE,

Wm. K. Hammond, President,  
Theodore A. Randall, Secretary.

N. B. M. A. AND C. B. M. A. PROGRAM.  
JOINT MEETING.

First Session, Tuesday, February 1st, 10 A. M.

Call to Order by President W. K. Hammond.

Opening Prayer—Doctor Jas. B. Wasson, New York City.

Address of Welcome on Behalf of the City—Hon. Fiorello H. La Guardia, President, Board of Aldermen, New York City.

Response to Address of Welcome—Wm. Schlake, Chicago, Ill.

President's Annual Address—Wm. K. Hammond, New York City.

"Terra Cotta and Brick"—Oswald Spier, Managing Director, National Terra Cotta Society, New York City.

"Business, Retrospect and Prospect"—Allen E. Beals, New York.

Discussion led by—

"What Construction Industry Has Meant in Past and What it is Today"—Miss Estelle T. Weeks, New York City.

Discussion led by—

"A 250 Per Cent. Return on Advertising"—George W. Small, Literary Digest, New York, N. Y.

Discussion led by—

N. B. M. A. Treasurer's Report—John W. Sibley, Birmingham, Ala.

Report of Committee on Technical Investigation—Albert V. Bleininger, Newell, W. Va.

Report of Other Standing Committees.

Election of N. B. M. A. Officers and Members of Standing Committees.

Installation of Officers.

C. B. M. A. SECOND SESSION.

Wednesday, 10:00 A. M.

President's Annual Address—William Schlake, Chicago, Ill.

Report of Treasurer—Ernest Barkwill, Cleveland, Ohio.

Report of Technical Work—D. Knickerbacker Boyd, Philadelphia, Pa.

Cost Accounting—Wm. Burr, Ernst & Ernst, Cleveland, Ohio.

Report of Secretary—Manager Ralph P. Stoddard, Cleveland, Ohio.

N. B. M. A. SECOND SESSION.

Wednesday, 12:00 Noon.

"Solving the Labor Problems"—Richard H. Waldo, Representing The Inter-Racial Council, New York, N. Y.

Discussion led by W. E. Dunwody, Macon, Ga.

"Handling and Shipping of Brick"—Robert Twells, Jr., Chattanooga, Tenn.

Discussion led by John P. Cahoon, Salt Lake City, Utah.

"Exit Wheelbarrow, Enter Motor Truck"—Marion W. Blair, Moundsville, W. Va.

Discussion led by John H. Miller, Washington, D. C.

"Brick and Tile Making in the Northwest"—Charles P. Oudin, Spokane, Wash.

Discussion led by Rufus P. Morton, Princeton, Minn.



The Reduced Rates Are Granted in All the Territory Within the Black Lines, and Those Purchasing Through Tickets From Points in Louisiana, Texas or Arkansas, Routed Through Southeastern Territory Will Be Granted the Reduced Rate From Starting Point.



**N. B. M. A. THIRD SESSION.**

Thursday, 10:00 A. M.

Remarks Upon a New Ordinance for Proper Construction of Chimneys—Prof. Ira H. Woolson, New York, N. Y.  
 Discussion led by Franklin H. Wentworth, Boston, Mass.  
 Drying Brick and Tile—Joseph L. Buckley, Philadelphia, Pa.  
 Discussion led by Jay Terry, Kingston, N. Y.  
 "Brick Paved Highways"—E. L. Winslow, New York, N. Y.  
 General Discussion led by C. P. Mayer, Bridgeville, Pa.

**C. B. M. A. THIRD SESSION.**

Thursday, 12:00 Noon.

Discussion—Tunnel Kiln, led by C. H. Whitescarver, Williamson, W. Va.  
 Discussion—Bricklayer and Apprentices, led by D. Knickerbacker Boyd, Philadelphia, Pa.  
 Report Stocks, Orders and Outlook—By Delegates from all Districts of the United States.  
 Reports of Committees.  
 Election of Six Directors.

**N. B. M. A. FOURTH SESSION.**

Friday, 10:00 A. M.

"Making Brick and Tile in Arkansas," (Illustrated)—W. W. Dickinson, Little Rock, Ark.  
 "The Mechanical Handling of Brick," (Illustrated)—R. C. Penfield, American Equipment Co., Chicago, Ill.  
 "The Chicago Method of Burning Brick," (Illustrated)—Frank R. Lambert, Chicago, Ill.  
 Discussion led by George A. Parry, Boston, Mass.  
 "Cost of Power in the Clayworking Industry," (Illustrated)—C. C. Cordes, Pittsburgh, Pa.  
 Discussion led by Eben Rodgers, Alton, Ill.  
 "The Housing Problem"—H. L. Jacobs, Suffolk, Va.  
 Discussion, led by H. C. Kleymeyer, Evansville, Ind.  
 Report of Committee on Resolutions.  
 Miscellaneous Business.

(Note.—In addition to the foregoing addresses and papers, various questions pertaining to brickyard practice will be discussed. Any member desiring information on any specific detail of the business may obtain same by submitting questions in writing to the Secretary.)

**CONVENTION DATES.**

Canadian Clay Products Association, Carls-Rite Hotel, Toronto, Canada, January 25, 26, and 27. Gordon C. Keith, 51 Wellington St., W., Toronto, Ont., Secretary.

National Terra Cotta Society, Chicago, Ill., February 7 and 8. Oswald Speir, 1 Madison Ave., New York City, Managing Director.

National Brick Manufacturers' Association, Hotel Pennsylvania, New York City, January 31 to February 5. Theodore A. Randall, 211 Hudson St., Indianapolis, Ind., Secretary.

Common Brick Manufacturers' Association, Hotel Pennsylvania, New York City, January 31 to February 4. Ralph P. Stoddard, Schofield Building, Cleveland, Ohio.

American Ceramic Society, Deshler Hotel, Columbus, Ohio, February 21, 22 and 23. Charles F. Binns, Alfred, N. Y., Secretary.

Kentucky Clay Products Association, Old Inn Hotel, Louisville, Ky., latter part of February. J. Crow Taylor, 642 S. 40th St., Louisville, Secretary.

Western Ontario Clayworkers' Association, Chatham, Ontario, March 1, 2 and 3. C. S. Parker, Chairman Executive Committee, London, Ont.

**MEETING OF CONNECTICUT BRICKMAKERS.**

Wednesday afternoon at 3:00 o'clock, the brickmakers from the Connecticut district will hold a meeting in the Convention Hall of the Pennsylvania Hotel.

**MEETING OF EASTERN LOCAL ASSOCIATION.**

There will be a meeting of the Brick Manufacturers' Association of Eastern Pennsylvania, Northern New Jersey and Delaware, in convention hall, Pennsylvania Hotel Thursday, February 3 at 3 p. m. For particulars and program, address William Conway, Jr., secretary, 58th and Walnut street, Philadelphia, Pa.

**WEST ONTARIO CLAYWORKERS TO HOLD ANNUAL CONVENTION IN MARCH.**

C. S. Parker, Chairman of the Executive Committee of the Western Ontario Clayworkers' Association, advises us that the twenty-fourth annual convention of that association will be held at Chatham, Ontario, Tuesday, Wednesday and Thursday, March 1, 2 and 3. The program has not yet been completed, but we hope to be able to at least publish a portion of same in the next issue of The Clay-Worker.

**WISCONSIN CLAYWORKERS' ASSOCIATION TO DEFER ANNUAL CONVENTION UNTIL 1922.**

Oscar Zimbal, Sheboygan, Wis., secretary of the Wisconsin Clayworkers Association, advises us that it has been decided not to hold a meeting of that organization this winter, but to defer same until some time in January of 1922.

**KENTUCKY ASSOCIATION MATTERS.**

THE KENTUCKY Clay Products Association has passed the word to the clayworkers of Kentucky that the N. B. M. A. annual is to be held at Hotel Pennsylvania, New York, January 31 to February 5, and advised all who can do so to attend that gathering. Also the members are asked for suggestions as to the date for holding a state meeting in Kentucky, whether it should be soon after the big annual, or later in the spring, to take up and discuss the problems of the clayworkers of the state. The officers of the Kentucky Clay Products Association are J. T. Howington of the Coral Ridge Clay Products Company, Louisville, president; F. C. Klutey of the Kleymeyer, Klutey Brick & Tile Company, Henderson, vice-president; J. Crow Taylor, Louisville, secretary; the late Alfred F. Kleymeyer of the West Point Brick & Lumber Company, was treasurer.

**MEETING OHIO DRAIN TILE MANUFACTURERS.**

THE OHIO DRAIN TILE ASSOCIATION will hold its annual meeting at the Chittenden Hotel, Columbus, Ohio, Friday January 27. All manufacturers of drain tile in the Buckeye state whether members of the association or not are urgently invited to attend. A number of excellent speakers have been provided for, including Murray Lincoln, secretary of the Ohio Farm Bureau, and Gales Starr Ross, sales manager of the Dunham Service Corporation of Columbus, both of whom will review general business conditions of interest to drain tile manufacturers.

A committee on entertainment consisting of W. P. West, of the Franklin Brick & Tile Company, and Harry Landrum, of the Columbus Clay Company, will look after the entertainment of the visitors, and announces that one of the features will be a luncheon at the Chittenden. C. H. Hilty, of Ada, is president, and J. C. Poling, of Ada, is secretary of the association. The latter will be glad to give any further particulars relative to the meeting to any one interested.





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

#### Best Volume on Burning Ever Published.

Dear Mr. Randall:

Please accept my thanks for the copy of Mr. Lovejoy's book which was greatly appreciated. To my mind it is the best volume on the subject which has ever appeared. I have already read a good part of the volume and know that I shall follow through the text completely. It is full of interesting and useful information.

I hope that everything is well with you and that you will not fail to call on us if you come to this district.

Again thanking you and with best wishes I am,

Yours very truly,

A. V. BLEININGER.

#### Chuck Full of Important Information.

Editor The Clay-Worker:—

I want to tell you that the book on "Burning Clay Wares" which we recently purchased from you, is undoubtedly the best thing of its kind on the market at the present time. It is chuck full of very important material that is very useful to the average clay products manufacturer. The writer has read it very thoroughly, and would advise any one who wishes to be thoroughly posted on the burning of clay wares and the construction of kilns to secure a copy of the book.

Very truly yours,

R. J. PERRY,

Woodland, Ill.

Receiver Woodland Clay Co.

#### Can Recommend Book to Clayworking Students.

Editor The Clay-Worker:—

The copy of Lovejoy's book on "Burning Clay Wares" has been received, and I want to express my thanks for same. I have looked it through but hastily, but recognize it as a book of very considerable merit and value to anyone interested in the ceramic industries. We need some good text books of this sort written from the standpoint of American practice and any such substantial additions as Mr. Lovejoy has made is to be welcomed with enthusiasm. I am pleased to recommend it to our students and to any others who are looking for literature of that sort.

Very truly,

CULLEN W. PARMELEE,

Professor Ceramic Engineering.

University of Illinois, Urbana, Ill.

#### Busy Rebuilding Their Plant.

Dear Mr. Randall:—

Enclosed find check covering our subscription to The Clay-Worker, and also membership in the National Brick Manufacturers' Association. As you probably know, we had a fire at our plant December 7th, which destroyed the engine room, boiler room, machine house, and damaged the dryer to a great extent, so it will keep us busy all the rest of the

winter rebuilding and getting ready to start up in the spring, when we expect the building season to open up in good shape.

Very respectfully,

Morganfield, Ky.

F. W. ALHORN.

#### Hoping for Better Business by Spring.

Editor The Clay-Worker:—

Enclosed find check for our subscription for The Clay-Worker. Things have been at a standstill here since October 1st, due to the low price of farm products, and there is virtually no market for anything. We hope by spring things will open up and everything get down to a normal basis, for building materials of all kinds have been too high, and nearly every one is holding off until prices come down.

Very truly,

Moultrie, Ga.

NACE BRICK CO.

#### Worth More Than Regular Price.

Editor The Clay-Worker:—

We are pleased to hand you renewal to our subscription to The Clay-Worker. Really mean it when we say "pleased" for The Clay-Worker is worth many times the price you ask for it, and that is more than we can say about most things these days.

Yours for a prosperous New Year,

Albion, Ind.

FRED LANDGRAFF.

#### Illinois Clay Plants Running to Full Capacity.

Editor The Clay-Worker:—

I am enclosing check for my subscription to The Clay-Worker. Have enjoyed reading it for about ten years, and anticipate the same enjoyment in the future. All of the plants of the White-Hall Sewer Pipe Company, including plant No. 1, of which I am superintendent, are running to full capacity.

With best wishes for a prosperous 1921, I am

Yours very truly,

W. C. HARTZELL.

#### New Paving Brick Plant for Texas.

Editor The Clay-Worker:—

Please change my address on The Clay-Worker mailing list to Mineral Wells, Texas, instead of Thurber. It may be of interest to you and the fraternity, generally, to know that we have organized a \$200,000 company, to be known as the Mineral Wells Paving Brick Co., and work was started December 20th on a modern plant to make paving brick only. I severed my connection with the Thurber Brick Company December 1st, to take the management of this new company. The demand for paving has not been affected at all by the slump in Texas so far, due to the fact, possibly, that the State is at least three years behind in paving and road work.

With best regards, I am,

Mineral Wells, Texas.

A. E. EATON.

#### Returned Canadian Soldier Reconstructing Plant.

Editor Clay-Worker:

I have had many and varied experiences since last I wrote to you. I used to take The Clay-Worker for several years before the war. I have never met you personally but I always used to keep track of your doings in the annual conventions of the association. I was over at the War Show for five years and three months, that is the time I was away from here. I was a prisoner of war in Germany for five months. I escaped one dark night when no one was look-



ing. I traveled nearly 600 miles through the enemy's country in British uniform into Denmark. I came back to England again after many experiences in England and France. I went to Russia in 1918. I had a most interesting time. I was once in command of seven different nationalities. My former brickyard experience stood me in good stead. I was able to talk to all of them (profane). I had American railway troops out there. They could build bridges as fast as the Bolsheviks could blow them up. The aforesaid Bolsheviks said that the Americans either had an automatic machine for building bridges or the devil was helping them. I never said anything because I was there. And I was the commanding officer and in peace time a humble brickmaker from Edmonton, Alberta, Canada. The Bolsheviks offered 500,000 rubles for me dead or alive, but I came home with my hair on. Only to find that fur had gone up, lucky.

When I came back here, my plant was a sight, everything that could be stolen in any way was gone. My engine, stiff mud machine, pugmill, and they had just started on my Berg press, were taken apart, pulleys laying all over the floors. It cost me thousands of dollars to go to war, but it was a pretty good war. I intend to start up again in the spring, gather up the pieces and go over the top once more (the clay bank), and I want you to send me The Clay-Worker as in days of yore.

Sincerely yours,

Edmonton, Alberta, Canada.

P. ANDERSON.

#### Sewer Pipe Business Good.

Editor The Clay-Worker:

We are enclosing herewith check for \$2.00 covering the subscription of our head kiln burner, Mr. Ed McGinnis, to The Clay-Worker.

We are glad to state that business conditions are very favorable with us as we are entering the year 1921 with the smallest stock of sewer pipe for a number of years, and there is every prospect of a big demand during the summer.

Both our fire brick and sewer pipe plants are running full time, and we are still shipping some of our back orders with about the usual amount of winter business coming in.

Yours very truly,

E. F. CLEMENS,

Cannelton, Ind.

Cannelton Sewer Pipe Co.

#### Terra Cotta Plays Important Part in Construction of Pennsylvania Hotel.

Editor The Clay-Worker:

In reading over your announcements in the November and December, 1920, Clay-Worker, we note that in describing the Pennsylvania Hotel, you mention same as being "nearly absolutely fire-proof as a building can be, being of brick and tile and metal and stone, with wood eliminated," etc.

We trust you will not mind our correcting you in this regard, as evidently you overlooked the fact that a large portion of this hotel, both interior and exterior, consists of Atlantic terra cotta. In this connection we send you a copy of our new booklet, "Questions Answered," which will no doubt be of interest to you.

This booklet will give you a cut of this hotel from which you will note that we furnished the terra cotta thereon.

Very truly yours,

FRANKS G. EVATT,

New York City.

Genl. Sales Mgr. Atlantic Terra Cotta Co.

Good control of kiln temperature reduces the loss from bad burning and also makes for economy in fuel.

#### THE CHICAGO SITUATION.

WITH THE lowest building record in the history of Chicago since it ceased to be a village, hung up for the year just closed, and with the number of building permits for the second week in January, 1921, even less than for the corresponding week of 1920, there is nevertheless a decidedly optimistic feeling among building material men.

Some projects, including some of the big ones, are going forward or are ordered to go forward in the near future, and there are other indications and rumors, which seem to give considerable support to the wave of optimism in spite of some of the cold and forbidding facts. Several loans at 6 per cent. and some as low as 5½ per cent. are reported, and this in itself is encouraging. Moreover there are persistent rumors that labor in the building trades is getting ready to make substantial concessions before long. Too much, however, probably cannot be gambled on this rumor. And although possibly it comes closely in the same category with rumors of "drops" in the prices of some building materials, yet somehow it looks like a dawn of a more rosy hue, and the fervent prayers are that clouds of trouble will not obscure it.

The word comes that work is to go ahead on the new Union Station on the West Side and that the train concourse will be completed by the end of summer, if not before.

There is considerable building in the outlying districts, especially by some of the banks. The Woodlawn Trust and Savings Bank is planning to erect its own building at the northwest corner of Woodlawn avenue and East Sixty-third street on a lot 71x176 feet. It will have a banking floor, a mezzanine and two office floors. The cost is estimated at \$640,000. The West Englewood State Bank also is planning its own home at the northeast corner of West Sixty-third street and Marshfield avenue, at a cost of \$250,000.

Stergios Brothers have purchased the northwest corner of Kedzie avenue and West Forty-seventh street, according to report, with a view to erecting a four-story brick building with stores on the ground floor and offices and apartments on the floors above. The estimated cost is said to be about \$150,000.

It is probable that more activity will soon begin in the downtown section. A six-story addition to the fifteen story Lumbermen's Exchange Building at the southeast corner of LaSalle and Madison streets is soon to be started, it is said. The estimated cost is \$600,000. Holabird and Roche are the architects, and the new offices are expected to be completed by next fall.

It is hoped that another month will bring more and better news.

SCRIPT.

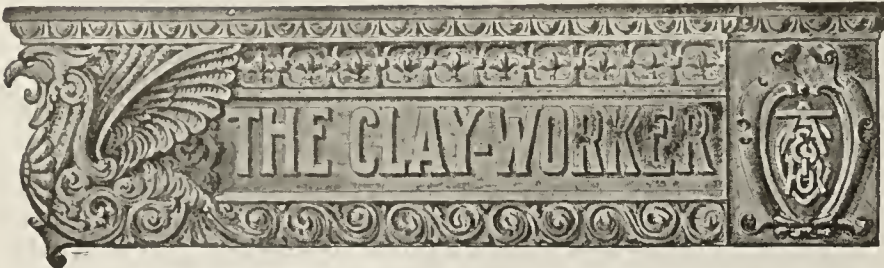
#### TABULATE YOUR NEGATIVE KNOWLEDGE.

While picking out the other fellow's faults and shortcomings is neither a pleasant nor profitable business, engineers now recognize that the tabulation of negative knowledge is an important thing in industry. In a word, in carrying on experimental work it is almost as important to know what not to do as to know what to do.

Engineers know this and we all recognize in a general way that it is well to know what to do, but the practice is all too common of keeping only a complete record or tabulation of experiments which result successfully. To round out our real knowledge right we should also tabulate carefully failures and the whole line of negative knowledge gained from experience.

A careful tabulation of negative knowledge makes a good reference guide for the future and helps one to avoid errors and the paying again of tuition to experience for negative information.





Entered at the Indianapolis postoffice as second-class matter.

A Practical Illustrated Monthly Magazine, devoted to Brickmaking and allied Clayworking Arts and Industries.

Title registered, contents copyrighted.  
THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

TERMS OF SUBSCRIPTION:

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Furnished on application. The CLAY-WORKER is unquestionably the most effective medium in its field, and character and circulation considered it is the cheapest. To insure insertion in current issue, advertising matter should be sent to office of publication on, or before the first of the month.

Correspondence on all subjects of interest to Clayworkers solicited. All communications should be addressed to  
211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 75 January, 1921 No. 1

CURRENT COMMENT.

Here's looking to New York.

\* \* \*

The greatest city in the world.

\* \* \*

Where the clay clans are to gather in annual convention the week of January 31st to February 5th, 1921.

\* \* \*

To discuss affairs of one of the oldest industries in the world—the making of clay products. Be among those present.

\* \* \*

One of the vital questions of the day calling for earnest thought rather than snap judgment is that of regulating immigration.

\* \* \*

Finding out the proper level for brick prices is one of the immediate problems of the industry which should be faced squarely, not dodged.

\* \* \*

One of the best predictions we have heard is that the country will break all records in the matter of readjustment and the speeding up of business.

\* \* \*

A good economic theory to keep in mind these days is that the higher we can maintain wages, and the more we can reduce the cost of production, the better it will be for the prosperity of the whole country.

\* \* \*

There are things we ought to do ourselves, there are things we ought to let George do, and there are things which we ought not to do. The trouble is, the things we ought to do are so mixed with the things we ought to let George do,

and the things that we ought not to do, that it is often quite a puzzle, and we don't know what to do.

\* \* \*

The right name for the first real band wagon of the new year is Cheerful Hustling.

\* \* \*

Most of us have a great enough desire to get things, and what we need is more willingness to first earn them.

\* \* \*

Downward revision in the cost of labor on the job will help materially to encourage early activity in building.

\* \* \*

The divine right of other kings has been questioned, and now Old King Coal is coming down from his high horse.

\* \* \*

We have heard of so many paramount questions and issues that we arise to ask, what is a paramount question?

\* \* \*

This is the spring when a lot of budding salesmen may feel some nipping frosts that will test the sternness of their qualities.

\* \* \*

The building outlook is not only fairly good, but the outlook for using a greater percentage of brick and tile is mighty fine.

\* \* \*

It is better to have some stock on hand in the spring than to have to hustle to fill orders when the building season gets under way.

\* \* \*

Let the historians explain and moralize on the whyfore of the crime wave, the main thing for most of us is to help put a stop to it right away.

\* \* \*

Even lumbermen now use pictures of brick homes in their advertising and plan service, which is a good sign that brick is coming into wider recognition and attention for home building.

A BIT OF PHILOSOPHY.

The following bit of philosophical reasoning is credited to John Hays Hammond. "When no one is entirely happy, substantial justice is being done to everyone!" This is offered in recognition of what our forefathers had in mind in preparing a certain historic paper setting forth therein the rights of man to life, liberty and the pursuit of happiness. It is claimed genius was shown by including the word pursuit in the phrase. This is a good bit of philosophy for present day application.

INVENTION AND RESEARCH.

Among the things which wise students of industry are telling us is that there never was a time when things moved with such speed nor has there ever been a time when invention and research is more essential than right now. Moreover we are told that war always brings a new era of invention to overcome the course of waste and loss incident to war. In a word, following every big war the economic world has to be remade, and generally it is improved in the remaking by active research and many new inventions and discoveries. We are told, too, that the patent office at Washington furnishes evidence that genius has been stimulated and that inventors are busy. Let us not overlook the fact that inventions and research can do much for the clay working industry as well as for others. It is educational development which has been the big force in the industry in this country, and now that all around us there are busy times in research and invention let us not be laggard but up and



doing and forging forward by continuing research, and by devising new inventions on the one hand and by giving them ready audience and fair trial on the other.

### THE TRINITY OF INDUSTRY.

In the course of a recent address by Francis H. Sisson of the Guaranty Trust Company, New York, which has been circulated in printed form there appears this paragraph:

"Grave danger will menace our industrial structure unless as a people we can be brought to realize that all industry, upon which is based our very existence as a nation, is, in effect, a partnership of labor, capital, and brains, each absolutely dependent on the other two, and none capable of separate conduct of the business. They constitute the Trinity of Industry."

### THE SAME REASON THEN THE SAME REASON NOW.

One of the important whys that make the N. B. M. A. membership worth while was that which moved a number of brick makers to gather at Cincinnati in 1886 and there organize and bring into being the National Brick Manufacturers' Association. The why in this case was the feeling of a need for study and action on the subject of the future development of brick making and clay working generally. Previously it had been a crude hand craft, but some machines had been invented and interest in these and their possibilities, backed by a desire to learn things and make progress, is what led to the forming of the N. B. M. A. in the first place. And that they learned things, there is plenty of evidence all around us now to be had in a comparison of clayworking as it is done today and as it was done prior to that time.

The same reason which moved those pioneers in the organization to that early gathering in Cincinnati is still with us notwithstanding the great progress which has been made. There are always new machines coming out, new ideas being developed and new methods being introduced. Progress is not a thing that goes so far and stops, it keeps going. In this case it gathers headway from year to year. So that really the need to come and be informed is greater today than it was in 1886.

### TO MEET THE OTHER FELLOW.

Another why that has developed itself out of the many gatherings of the clans is that of meeting the other fellow, and developing fellowship. One of the great benefits of the annual gatherings is the coming together into social matters and the getting acquainted one with the other. This results not only in the building up of friendships and the broadening of a man's viewpoint, but this also plays its part in the education and inspiration for progress. We learn things from each other, things mechanical, social and commercial, and as a result of gathering together every man is benefited through fellowship. This, like many of the other whys, is alone worth the cost of membership and expense and trip to the annual gatherings.

### TAX TALK.

There is probably not a business man in the country but desires to see the excess profit tax law repealed. Opinions seem to be unanimous on this point, but the question is that of devising something to take its place or some form of taxation which will yield the necessary returns and be fairly satisfactory. On this point the committee on federal taxation of the National Association of Credit Men proposes a tax on the undistributed earnings of corporations.

They are issuing a booklet on this subject, advance sheets of which have been received, and from which we may summarize somewhat as follows:

Regular corporation income tax would be repealed, and the owners of stock in corporations pay on dividends received as part of their income for the year. This income tax is to be adjusted to meet the requirements, then the undistributed earnings of the corporations are to be taxed on a graduated system ranging from 4 per cent. up to 28 per cent.

This, it is thought, will equalize taxation and constitute an extension of the income tax principle for which we already have operating machinery for tabulation and collection.

Those desiring to inquire further into the arguments presented we presume can get a copy of the pamphlet in question, and further details from the National Association of Credit Men, which has its offices at 41 Parkroad, New York.

### ARE YOU AN N. B. M. A. MEMBER?

Are you a member of the National Brick Manufacturers' Association? If not it is pertinent to ask yourself why, and to consider some reasons why you should be a member. There are really two broad lines of reasoning on the subject of why every clayworker should be a member of the N. B. M. A. One line is the benefits which accrue from such memberships, and the other line of reasoning is the benefits which may be derived for the industry as a whole from a larger N. B. M. A. membership because of the greater work it can then accomplish.

The war and conditions resulting from the war brought new impetus to organized effort and made more important than ever before the need for such effort to beget co-operation and co-ordination in business and industry, that we may but that we may also maintain our industrial and commercial not only readjust our industrial affairs on the proper basis, supremacy as a nation.

Taking the clayworking industries specifically the way not only called for extensive research work and the development of new clay resources and the producing of new products, but it has led to a new progressive era in several branches of clayworking. New ideas are being developed in structural material, their needs and possibilities and new development is going on in the science of plant and kiln construction and operation, all of which points plainly to the need for more effort on the part of N. B. M. A. in the line of research work, standardization and education. A larger membership will mean more funds with which to carry on such work, and this will result in greater benefit to the clay industry as a whole.

On the other hand, it is obvious that the membership in the association will not only bring to the members the benefits of the work as it has been carried on, but there will be increased benefits for the individual members in proportion to the enlarged ability of the N. B. M. A. which will come from a marked increase in membership.

In a word, there are today more reasons why every man in every branch of the clayworking and the clayworking machinery industry should be a member of the N. B. M. A. than ever before. The officials of the organization and special committees are setting to work industriously to increase the membership, and since all will benefit from such an increase, the individual members of the association should also concern themselves with the matter and assist in a campaign for an enlarged membership.



NEBRASKA BRICK MEN HOLD SUCCESSFUL MEETING.

The sixth annual convention of the Nebraska Brick and Tile Association was held in Lincoln January 19 and 20. Officers elected for the coming year are: President, F. H. F. Waterman, of Hooper; vice-president, J. F. Smith, of Omaha; secretary and treasurer, O. H. Zumwinkle, of Lincoln. Members of the executive committee chosen are: Hugo Polenske, of Hastings; J. W. Turner, of Seward; A. H. Ferrens, of Lincoln; Frank Burnham, of York, and O. R. Martin, of Lincoln. Speakers on the opening day's program were: Prof. George R. Chatburn, of the University of Nebraska; Prof. J. W. Haney, department of mechanical engineering, of the university, and Dr. George E. Condra, who spoke at the banquet in the evening, illustrating his talk with moving pictures of Nebraska. On the Thursday's program, speakers were: Prof. O. W. Sjordgren and Prof. Ivan D. Wood, of the agricultural engineering department of the State University, and W. A. Selleck, president of the Lincoln State Bank.

C. & A. POTTS & COMPANY BUILD A NEW FOUNDRY.

The constantly growing demand for their products has obliged the C. & A. Potts & Co., Indianapolis, manufacturers of brick, tile and other industrial machinery to enlarge their shops. To enable them to do so, they recently purchased an additional half block adjoining their present property on which to erect a foundry. This gives them an entire city block, and with the new foundry, which will be equipped with modern appliances, they will be in a much better position to meet the demands of the trade. The Potts brick machine and disintegrators, brick molds, trucks and other brickyard supplies which are illustrated on pages 92 and 93, have long been regarded as standard by many brick-makers of the country. The junior member of the firm, George Potts, is planning to attend the National Convention, where he hopes to meet and greet many of their customers and friends.

THE HIGH COST OF CARELESSNESS.

The National Board of Fire Underwriters has been analyzing the nation's residential fire losses, as distinguished from the destruction by flames of other classes of buildings, in order to be able to give householders more definite warning than has hitherto been possible. While the greatest aggregate property loss from fire occurs through the burning of industrial and commercial structures, such as warehouses, factories, grain elevators and mills, private dwellings furnish the largest number of fires. And the fires in the homes are most frequently attended with loss of life. In 1917 it was found that 65 per cent of all reported fires occurred in residences, the loss representing 28 per cent of the aggregate damage. The total residential losses for 1918 were \$64,000,000, as compared with \$66,000,000 for the preceding year. There were also fewer of such fires, 210,740, contrasting with 232,021 for 1917. In view of an increase of \$51,475,000 in the total reported fire loss for the year, it would appear that householders were beginning to exercise special caution.

The cause of greatest damage to dwellings was shown to be "defective chimneys and flues," the loss from this source being \$7,987,000. "Lightning" came second, with \$4,873,000 loss on buildings without lightning rods, an indication that the largely discarded protective device may not be so ineffectual after all. "Stoves, furnaces, boilers and their pipes" are blamed for damage to the amount of \$4,689,000. It is figured that more than 40 per cent of the dwelling house losses were from "strictly preventable" causes. That is to say, from carelessness, often so gross as to be classed as criminal. The

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present serious shortage of houses in this country emphasizes the gravity of such a situation. We must stop letting our homes burn through carelessness, and the underwriters' investigation suggests that the first step is to put our houses in order.

**FOR SALE.**

Fire brick plant located at Baltimore, Md. Fully equipped and now operating. B. & O. R.R. siding.

**J. NELSON DICK,**  
918 Land Title Bldg.,  
Philadelphia, Pa.

11c



# The Ohio State Journal.

The Ohio State Journal  
Published Daily, except on Sundays and  
Holidays, at Columbus, Ohio.  
Subscription Price, \$5.00 per Annum in Advance.

ESTABLISHED 1846. VOL. 44. NO. 14.

COLUMBUS, OHIO, WEDNESDAY MORNING, MARCH 24, 1928.

PAGE 1.

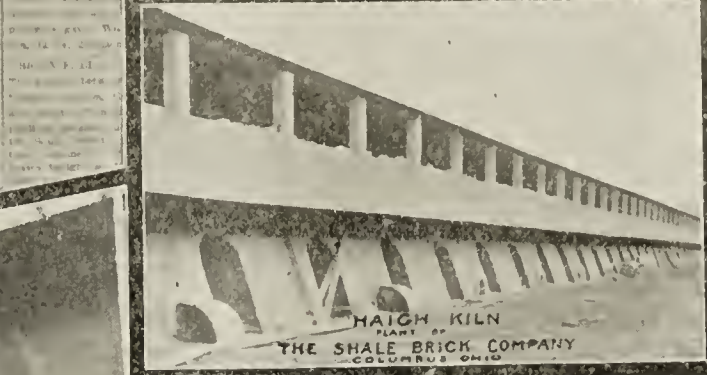
## WILSON LIFTS CONTROL OVER PRICE OF COAL

Advises Operators and  
Miners to Fix Up the  
Scale, Warns Against  
Profiteering

## Dayton Girl Voted Prettiest at Miami



## Wood Leads in South Dakota; Lowden Second ? LEADERS IN



HAIGH KILN  
PLANT OF  
THE SHALE BRICK COMPANY  
COLUMBUS, OHIO

## RIOTING SURE IF RISING RENT IS NOT HALTED

Peniters in Goff in Car  
Their Fight to Men  
of the Assembly

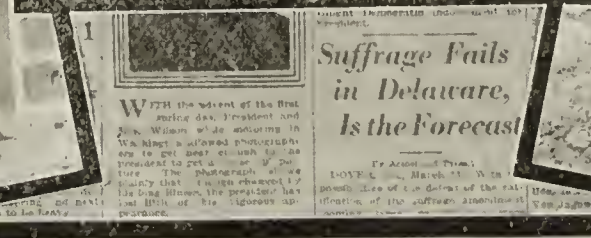
## Local Anti-New German Chancellor



Peniters in Goff in Car  
Their Fight to Men  
of the Assembly



SIDE FIRING A HAIGH KILN



TOP FIRING A HAIGH KILN



REMOVING BURNED BRICK FROM HAIGH KILN

## PARDONABLE PUBLICITY

The Ohio State Journal, Columbus, Ohio, is completing a new Newspaper Home. The Brick for this Publicity Home were bought of The Shale Brick Co., Columbus. These brick, about a half million, were burned in a Haigh Continuous Kiln at a saving of half the coal and half the labor over other kilns. There were no culls. The Top, Bottom and Middle Courses were identical in quality and color. If you are interested in a kiln that will save half the fuel and half the labor and will burn Quality brick clear through, you ought to investigate this Columbus Kiln. Other kiln locations on request.

## THE HADFIELD-PENFIELD STEEL CO. BUCYRUS :: OHIO

## CITY ELECTION TOO HIGH, W

Connie Auditor  
000 for Ex

Connie Auditor  
000 for Ex



WILSON LIFTS CONTROL OVER PRICE OF COAL

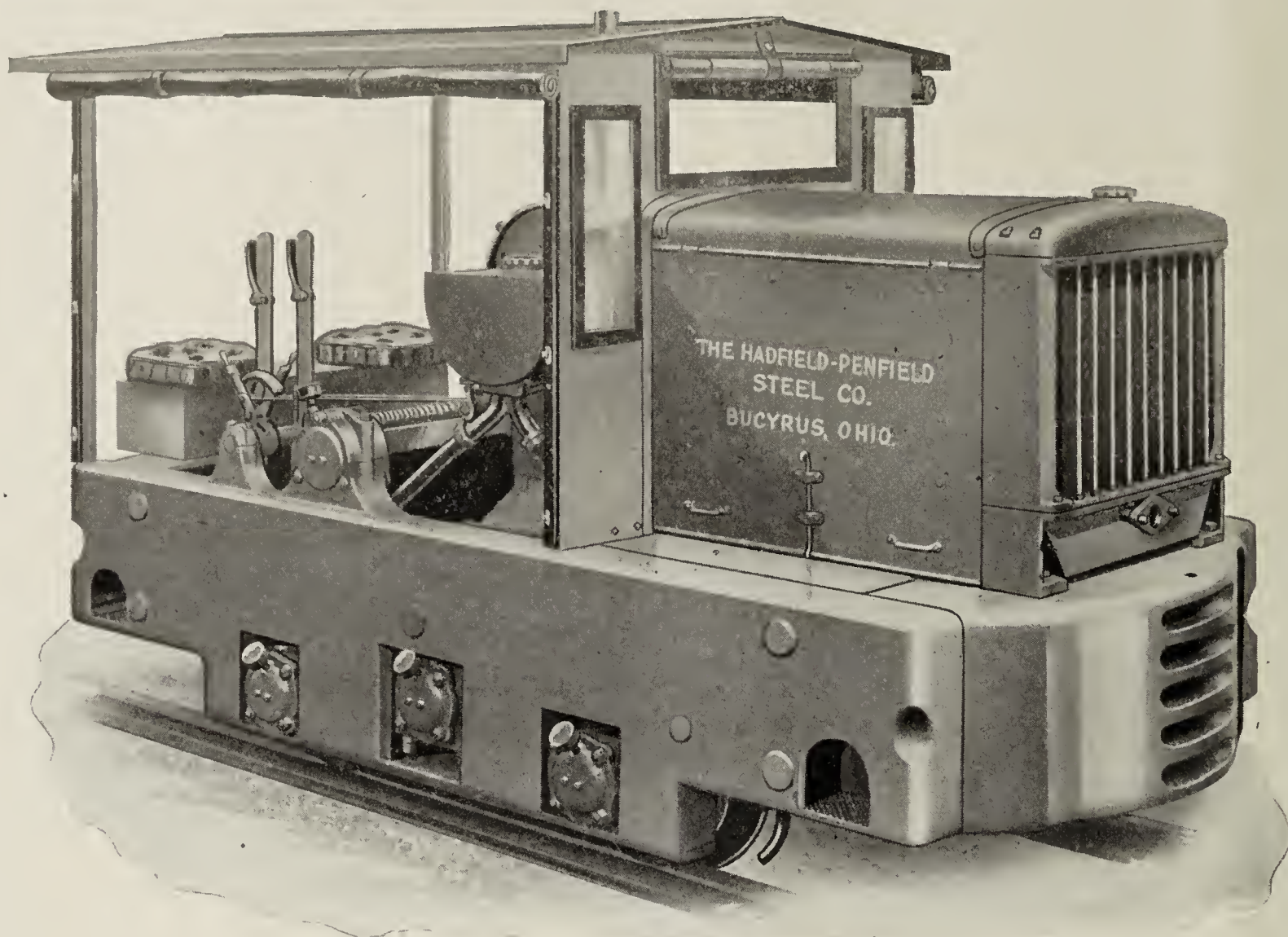


SUFFRAGE FAILS IN DELAWARE, IS THE FORECAST



DEMOCRATIC LEADERS HAVE CONFERENCE WITH GOVERNOR





American Gasoline Locomotive.

### The American Gas-O-Motive.

Good in the "Long Run". Fine on the "Short Pull".

The American Gas-O-Motive speeds up the equipment and the organization.

Built strong it is impervious to hard usage of clay plants. It stands up under unfair punishment.

It is always on the main track, never on the siding or repair track for tampering or tinkering.

Designed simply it is safe in the hands of even an incompetent.

Being quick in action it is here, there and everywhere, doing the work of two ordinary locomotives.

Ample stress factors keep it at work. Continuous service invited.

It is Friction drive. Hercules Motor Efficient Cooling system. Telescopic coupling. Aligning axle. Drive chains run in oil. Positive sander, 4 wheels.

Direct vision ahead. Parts accessible, The American Gas-O-Motive represents an investment costing you 50 cents a day! It would be worth many times that amount to you.

Built in several sizes.

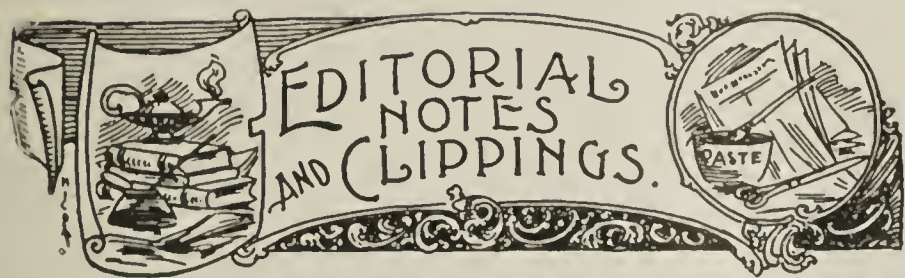
Get specifications, price and delivery.

## The Hadfield-Penfield Steel Co. Formerly The American Clay Machinery Co.

George G. Stein  
Mgr. Gasoline Locomotive Sales Dept.  
404 Hippodrome Bldg., Cleveland, Ohio.

Bucyrus, Ohio.





Dr. W. S. McClain, of Cooksville, Tenn., writes that he is organizing a company to start a small brickmaking plant at that place.

The Allegheny Brick Company, Ltd., of Pittsburgh, Pa., has filed a voluntary petition in bankruptcy. The liabilities are given as \$19,680 and assets \$41,000.

The North Missouri Fire Brick Clay Company, of Farber, Mo., has recently been incorporated with 10,000 capital stock. R. Hill, D. O. Groce and R. N. Nichols are interested.

M. C. Beach, O. A. Samuels and G. Brown have organized the Munson Roofing Tile Company, Brooklyn, N. Y., with \$25,000 capital. The company will be located at 413 Twentieth street.

R. D. Harry, Dallas, Texas, general manager of the U. & J. Carburetor Sales Company, writes that he is investigating the possibilities of the clay products business with a view of becoming interested in same.

Improvements to cost about \$150,000 will be made in the plant of the Queen City Brick & Tile Company at Mapleside, near Cumberland, Md., including the installation of new machinery and equipment, new building, etc.

The D. & P. Roofing Tile Company has been organized at Guttenburg, N. J., with \$125,000 capital. Adolph G. and G. Drapp and Al. Poellot, West New York, N. J., are interested. As the name implies, the company will manufacture roofing tiles.

At the recent annual meeting of the Harbison-Walker Refractories Company, Pittsburgh, Pa., H. W. Croft, formerly president, was elected chairman of the board of directors, and John E. Lewis was elected president and N. McQuillen vice-president of the company.

At the annual meeting of the stockholders of the McArthur Brick Company, of McArthur, Ohio, January 3, the following officers were elected: H. S. Hamilton, president; W. C. Fisher, vice-president; A. Will, Jr., treasurer; L. W. Sprague, manager; O. E. Vollenweider, attorney; O. F. Pilcher, secretary.

J. W. L. Corning, president of the Chaska Brick Company, of Chaska, Minn., died at his home in St. Paul, Minn., January 7. Mr. Corning was born in New York state in 1822 and moved to St. Paul in 1868 and has resided there since that time. He was active in many of the organizations looking toward the development of the city of his choice.

The Novelty Brick Company's plant, south of Newcomerstown, Pa., has been purchased by the Newcomerstown Clay and Coal Company, a new concern capitalized at \$150,000. The new company will rush work on repair of kilns so that they may be fired about March 1. The plant is to be remodeled and the power to be changed from steam to electricity.

According to J. F. Driscoll, general manager of the International Brick Company, of El Paso, Texas, 1920 was the banner year, both in quality and quantity of production and volume of business. He anticipates that by spring of this year everything will be in full swing again. In El Paso, alone, a large amount of construction work must be done regardless of cost; the growth of that city means an abnormal demand on the building industry for some years.

A fine spirit of co-operation on the part of employes and employers has been shown at Monmouth, Ill., by a voluntary offer on the part of the employes to donate a part of their services in the rebuilding of the plant which was destroyed by fire last month, as noted in December Clay-Worker, provided the work of rebuilding is done without undue delay. The plan is to donate their services one day a week, until each employe has given service amounting to \$20.00.

N. L. Mamer, who for a number of years has been active in the management of the Campus Brick and Tile Works at Campus, Ill., has retired. He has leased his interests to P. A.

Zeller, who has been with the concern since 1904. J. M. Mamer will remain with the company.

The Moberly Paving Brick Company, Moberly, Mo., has been quite busy all winter. Among the recent orders booked is one for paving the streets of West Leavenworth, Neb.

The Superior Basic Brick Company, of Pittsburgh, Pa., was recently incorporated. Those interested are J. M. Dixon and H. B. Groninger, of Pittsburgh, and William M. Hertzler and James E. Schaffer, of Lewiston.

Fred W. Salmen, manager of the New Orleans office of the Salmen Brick & Lumber Company, writes there is very little demand for brick in that section. The price has held up well, however, and what brick are sold bring \$19.00 per thousand.

The Mayer Brick and Tile Plant, of Frostburg, Md., which was recently remodeled and equipped with new machinery, is soon to be further enlarged, according to John A. Coldwell, of the Savage Mountain Fire Brick Company, which controls the plant. It was founded by the late Henry Mayer.

Walter P. Grath, general manager of the Jersey Clay Products Company, St. Louis, Mo., writes they had a very fair season up to October 1st, and they do not expect much of a change in present conditions until spring, but if things open then as it is confidently expected, Mr. Grath looks for a fine business for years to come.

H. W. G. Nolting, one of the pioneer brick manufacturers of Indianapolis, died at his home here January 1, following a brief illness. Many of the brick in the older buildings of Indianapolis were made by Mr. Nolting from the surface clay about the city, all of which has been used up long since. A wife and seven children survive.

The Onondaga Pottery Company, Syracuse, N. Y., will erect a new plant, the construction work on which will begin about the first of April, and has recently purchased a tract of 100 acres which will give them plenty of room to expand. The first unit of the plant will include four kilns, but eventually the plant will be extended until it embraces twenty-eight kilns.

John Ringle, of the Ringle Brick Company, Wausau, Wis., writes that business was brisk with them up to the middle of December. The unfavorable elements with which they had to contend the past year has been the high price of coal and excessive freight rates. They do not operate at all in that section during the winter months, but Mr. Ringle thinks general conditions must become more normal before building will resume usual proportions.

R. L. Dingledine, secretary-treasurer of the Franklin Brick & Tile Company, Columbus, Ohio, reports a busy year for 1920. The new unit of their plant which the company has under construction at Taylor's Station for the manufacture of hollow building tile will soon be ready for operation. The plant has a daily capacity of 100 tons of ware. The face brick plant is practically closed, in common with many other clayworking plants in that section of Ohio.

Henry L. Thorpe, president of the Park Brick Co., of Elmwood, Conn., died at his home December 29, after an illness of several weeks, aged 68 years. He was born in North Haven but had been a resident of Elmwood since 1898, and had been connected with the Park Brick Company since that date, and had been president since its incorporation in 1905. He was the youngest of four children whose ages range from 68 to 80 years, and his death makes the first break in the family. A wife and one son survive.

A receiver has been appointed for the Clay Products Manufacturing Company, of Monroeville, Ohio, as the result of a suit brought by a stockholder. It is alleged that the company was started with a capital of \$500 and common stock of no par value. Later 10,000 shares of preferred stock with a \$100 par value and 10,000 shares of common stock of no par value were authorized. The debts at present are said to be \$114,683.10 on materials and \$6,689.04 on labor, with the company unable to borrow any money. The plant is valued at \$700,000 and there is said to be a stock worth \$6,000 on hand.

The Gamble & Stockon Brick Company, of Jacksonville, Fla., has recently moved into new offices in the Knight Building. A fine display of the various makes of brick and other fireproof material handled by the concern has been installed, as well as a full line of the products which they manufacture.



themselves, including interlocking and partition tile, drain tile, roofing tile, silo block, and face and common brick. Telfair Stockton is president of the company.

The plant of the Tucker-Tex Brick Company, of Kissimmee, Fla., was badly damaged by fire last month.

F. S. McMahan, of Sevierville, Tenn., writes that he would like to receive catalogues of brickmaking machinery and supplies, as he contemplates going into the brickmaking business in the spring.

The Reliance Brick Company, Omaha, through their general sales manager, Robert C. Mitchell, has announced a reduction price of face brick from \$3.00 to \$5.00. According to Mr. Mitchell, "the company believes there is no longer any reason for maintaining war prices on building material, and the reduction is now made to keep pace with lumber, cement and other building materials."

W. B. Neher, a brick manufacturer of Hollywood, Ala., is to be general manager of a company which has been organized with \$50,000 to build a hollow tile building brick plant at Decatur, Ala. The ground has been broken and it is expected to have the plant ready for operation in the spring. The officers of the company are J. C. Jacobs, Scottsboro, president; John A. Thompson, Decatur, vice-president; J. C. Jacobs, J. H. Hurt, Virgil Bouldin, J. A. Williams, John R. Witt, John A. Thomason, Charles H. Eyster, W. B. Neher, directors.

More than 3,000,000 paving brick were manufactured and sold at the state brick plant near Junction City, Ohio, during the past year. The work is all done by prisoners, and because of the car shortage full time was not worked for several months. Sales of brick from the plant for the first six months of the new fiscal year or, ending November 30, amounted to 2,160,000 and for the entire year is expected to be at least 1,500,000 more than were made in 1920. Highway improvement on a very extensive scale is planned for the coming year and already orders for several million brick have been received by J. E. Clark, in charge of the sales department of the board of administration.

## SOMETHING NEW.

The old saying that there is nothing new under the sun is refuted in every number of The Clay-Worker. There is something new and good chronicled in our every issue. On page 63 of this issue there is a handsome illustration of a new device in the ad. of the American Equipment Co., a mechanical brick setter, which emancipates the brick tosser and does the work in much quicker time and with less wear and tear on the brick than is the case by the old method of man handling. By this device brick are taken from the kiln in units of from 500 to 1,000 and delivered to the wagon or car where they are deposited in an orderly fashion, with the result that there are no broken bricks and no bats. The device will be illustrated both by lantern slides and moving pictures at the coming National Convention by R. C. Penfield, to whose genius and energy the clay craft is greatly indebted. Where the Penfield brick setter and this new device are used together in a plant, the brick need not be touched by hand from the time they leave the off-bearing belt, until they reach the bricklayer at the building. It is certainly a great labor saver.

No man knows exactly what he can do or will do until conditions make the doing necessary for we are doing many things today that no man could have made us believe possible heretofore.

## FOR SALE.

One No. 1 Thew Steam Shovel, one yard dipper, Shop No. 196. Immediate delivery.

HERBERT-FISCHER BRICK CO.,  
174 Third Ave. North,  
Nashville, Tenn.

## WANTED

A competent man to take entire charge of inside work at a large hollow tile plant, manufacturing hollow tile fire proofing. Must be thoroughly competent to handle labor, to adjust die trouble, and oversee his own machinery repairing. Address, giving experience, reference and salary expected. All answers held strictly confidential.

Address W. H. F., Care Clay-Worker.

## Brick Plant for Sale Near Hamilton, Ontario, Can.

SEALED TENDERS addressed to J. J. CONWAY, RECEIVER, BUFF PRESSED BRICK COMPANY, OF HAMILTON, LIMITED, Merchants Bank Chambers, Hamilton, Ontario, will be received up till Noon, Monday, March 7th, 1921.

The Plant, which has been in use for about five years, has Mechanical and Dryer Equipment to produce 25,000 to 30,000 (wire cut) brick per day, and two Round Downdraft Kilns of about 70,000 capacity each. The Brick Machine is the No. 888 Raymond Auger, to which is attached Raymond Semi-Automatic Cutting Table. There are 40 acres of land, 20 acres of which contain Brick Clay of Glacial Deposit, estimated sufficient to produce 800,000,000 brick, ranging in color from light buff to green and of exceptional hardness. There is also on the land a brick cottage and a brick veneered house. This property is located alongside the Grand Trunk Railway, about five miles from Hamilton, Ontario, a rapidly growing city of about 115,000 population.

Tenders will be received as follows:

- Parcel 1. Land, Kilns, Dryers, Machinery and Small Tools, except Parcels 2, 3 and 4.
- Parcel 2. Two "Keighley" Horizontal Gas Engines—105 and 74 h. p.
- Parcel 3. One No. 10 Raymond Disintegrator.
- Parcel 4. 3,000 ft. 2-in. Good Used Gas Pipe.

Tenders may also be made for all the above en bloc.

Terms: A Marked Cheque for 5% to accompany all tenders, 20% ten days, 25% thirty days and 50% sixty days from date of acceptance, or as may otherwise be agreed upon with the Receiver.

The Highest or any Tender not necessarily accepted.

Inventory and all particulars at the office of the Receiver, who will arrange inspection.

Dated 17th January, 1921.

J. J. CONWAY,  
AUTHORIZED TRUSTEE.

## BRICKYARD FOR SALE

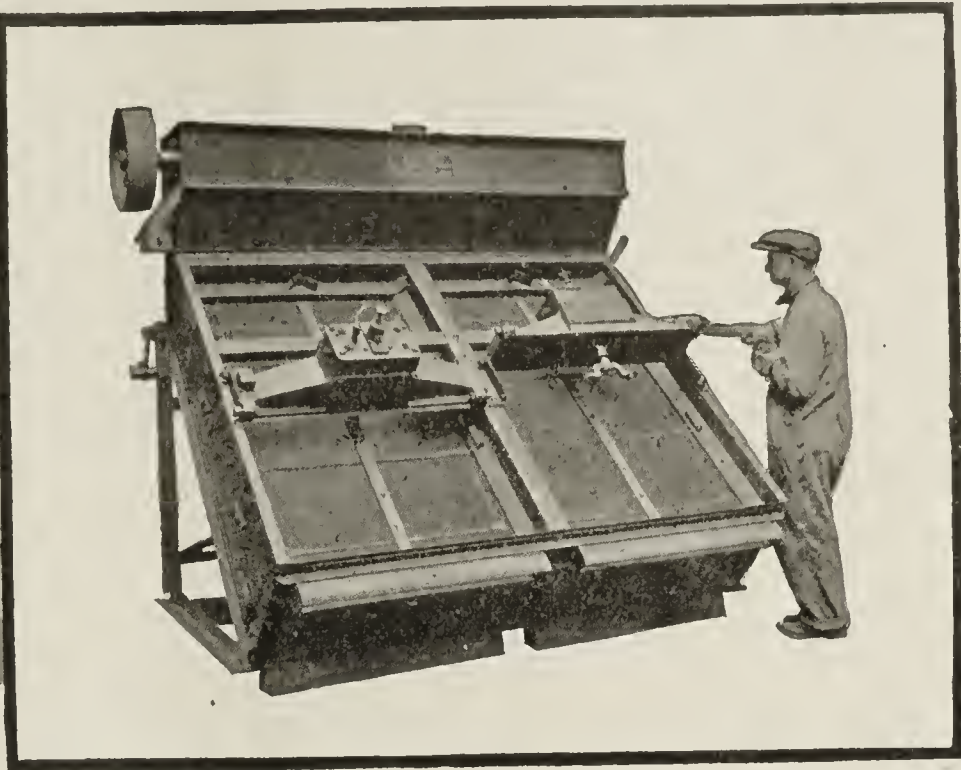
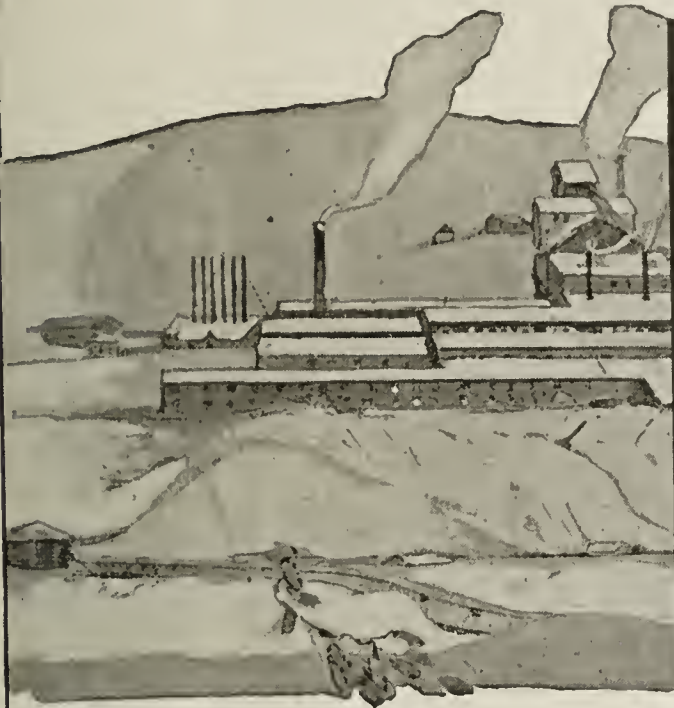
Adjoining railroad. 10 acres of highest quality clay land. Also moulding sand, running water and gravel bank.

Eleven-room brick house, with bath, and other buildings on property. Excellent layout for independent business. Write for details.

MRS. J. H. PEPPER  
Middle Granville, N. Y.



# HUM-MER INCLINED SCREEN



## *Electro Magnetic Vibration*

Makes

wire cloth screen faster and wear longer

Screens

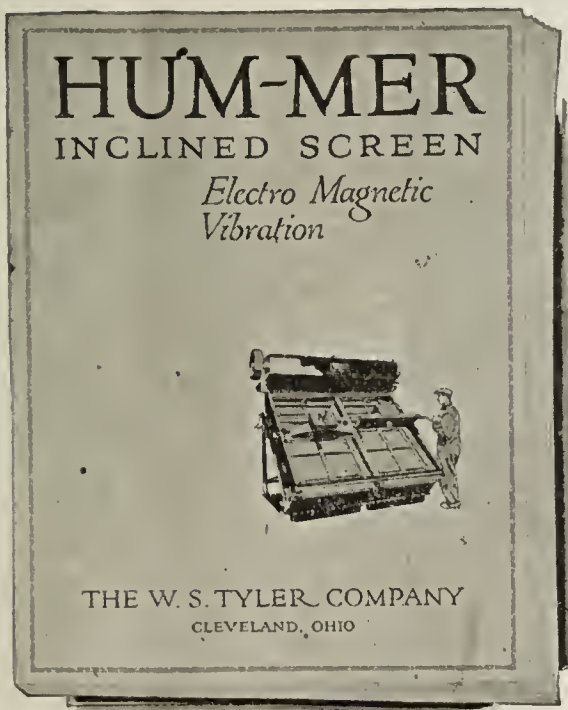
any material, coarse or fine

Replaces

bumping  
shaking  
revolving  
pulsating  
piano  
or any mechanically vibrated screen

Produces

increased tonnage  
greater fineness  
closer separation  
decreased screening cost



HUM-MER Catalogue No. 42- W

The  
W. S. Tyler  
Company  
Cleveland, Ohio

Please mail  
HUM-MER CATALOGUE  
No. 42- W to—

Name \_\_\_\_\_

Address \_\_\_\_\_

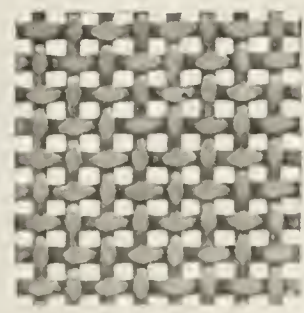
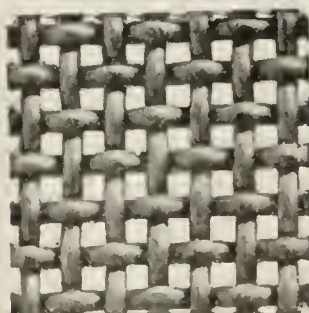
By \_\_\_\_\_ Title \_\_\_\_\_

Send in this  
Coupon for a  
HUM-MER  
Catalogue

## THE W. S. TYLER COMPANY

Cleveland, Ohio

Manufacturers of Woven Wire Screens and Screening Equipment





## CINCINNATI BRICK AND BUILDING NEWS.



WID-WINTER is never a time when there is much looked for in building operations, even with the conditions more favorable than they are at present, so it is not at all surprising to hear that the local demand for all kinds of clay products is somewhat slack at present. The fact that practically all lines of business are slow, and the period of readjustment has been very marked in the past few weeks, is not calculated to help the building industry. But there are signs that indicate a hopeful outlook for the early spring. Unless these do fail there should be a very considerable increase in the situation with the arrival of weather that will be favorable to building operations.

Prices are showing a decline in this market on practically all kinds of building material, and it is almost sure that labor will have to be trimmed a little, with the result that there will be a decided resumption to operations that have been held up for some months. The reductions that have been announced as to be looked for, not officially, however, but very possibly true, vary from 14 to 20 per cent. These do not include clay products, but it is certain there will be some decline in these prices too, and with all other items lower there should be a return of conditions that are at least fair. The report has been given out that common brick can be purchased lower at Hamilton, Ohio, than in this city, but that the brick sold here are better.

The reduction in prices will be most salutary to the industry and there should follow within a reasonable time an increase in the number of contracts let. There has been so much work held up that given a half chance the coming year should be one of very large operations. There is a great deal of work in the hands of the architects, and with favorable prospects the number of undertakings will make the year a most active one.

Building operations for the past year in this city show a material gain over those of the previous year. This increase is estimated to be nearly \$3,000,000. This report has been given out by Building Commissioner George Hauser. The report shows that the year 1918 was surpassed by almost 300 per cent. increase. The value of building work done here in 1920 totaled \$13,191,442, while that of 1919 was \$10,295,995. There were 13,119 permits issued in the past year, and 12,138 issued in 1919. December 1920, however, shows a decided falling off compared with the two previous years, and while the number of permits was larger the amount of building was smaller.

The fifteenth annual convention of the Ohio Association of Building Exchanges will be held at Youngstown, Ohio, on January 17 and 18. A number of features are to be enjoyed and some men of prominence in the trade will make addresses.

One helpful sign to the building outlook here is the fact that the contracting plasterers have decided to operate an open shop and are now employing non-union men to do the work, so that the work on many buildings can go forward. The strike of the plasterers for \$12 per day was the cause of this change.

Miles T. Watts, secretary of the Rockwood Pottery, died at his home, 2722 Cleinview avenue, Walnut Hills, some days ago, after an illness of only a few days. Mr. Watts was 62 years of age, and he was born at Nashville, Tenn., and came to this city a good many years ago. He was prominent in a number of industrial organizations here, as well as being interested in public affairs. He was a member of the Business Men's Club, Chamber of Commerce and Country Club. The funeral was held from his late residence, and the interment was in Spring Grove cemetery.

An automatic garage will be builded here to cost \$800,000. The building will have a capacity for 1,000 cars, and the announcement of the project has been made by O. A. Jackson, inventor and construction engineer of Chicago. He has opened offices here in the Blymyer Building. It is expected that construction will be started before long, and the building will be sixteen stories high, on a downtown site. The latter has not as yet been determined upon. The exterior will have the appearance of an office building. There is being organized a company to handle the matter.

The Hiett Construction Co. has announced plans for some residential work in the Westwood-Cheviot district, which involves two tracts, and whereon will be expended more than \$100,000. Six or eight homes will be started with the coming of favorable weather by the Werk Realty Co., on the east side of McKinley avenue, between Ratterman avenue and Werk road Westwood, the minimum for each house to be \$12,000. Several will cost \$17,000.

The Mitchell Brick Co. has filed suit in the Superior Court demanding \$5,000 damages from the Big Four Railroad Co., for a loss to its plant in destroying two of its sheds and doing serious damage to two others, during a fire at the plant. The claim is made that the employes of the railroad permitted a train of cars to pass over the hose which it had laid across the tracks at the time and cutting the same, thereby causing the loss noted above. It is alleged that instead of uncoupling the cars, the train was allowed to cut the hose.

Warren E. Richards & Co. expect to complete the development of their subdivision in Hyde Park in 1921, and if carried out they will build twenty houses, averaging \$9,000, including the ground.

The Nead Realty Co. will soon begin the building of six houses for the market in its Laura land subdivision, off Montgomery road, Norwood. The average cost will be \$9,000 for the market. This will give the company fifteen houses under construction.

Charles Bliss, who has been manager of the Cincinnati office of the Evans Builders' Co., has been succeeded by E. C. Rankin, who came from the Washington, D. C., office of the company. The change was effective January 1. The reports at the office are to the effect that business is not more than ordinary at this time.

M. E. McElhaney, manager of the Cincinnati branch of the Wm. E. Dee Co., says that the outlook for the new year for clay lines is very fair, but at present the situation is not brisk. Mr. William E. Dee was a recent visitor to the local office.

There is every reason for the belief that the new year will be a very good one, according to the report given out at the Purcell Brick Co., though at the present there is little to be noted in the way of brick demands.

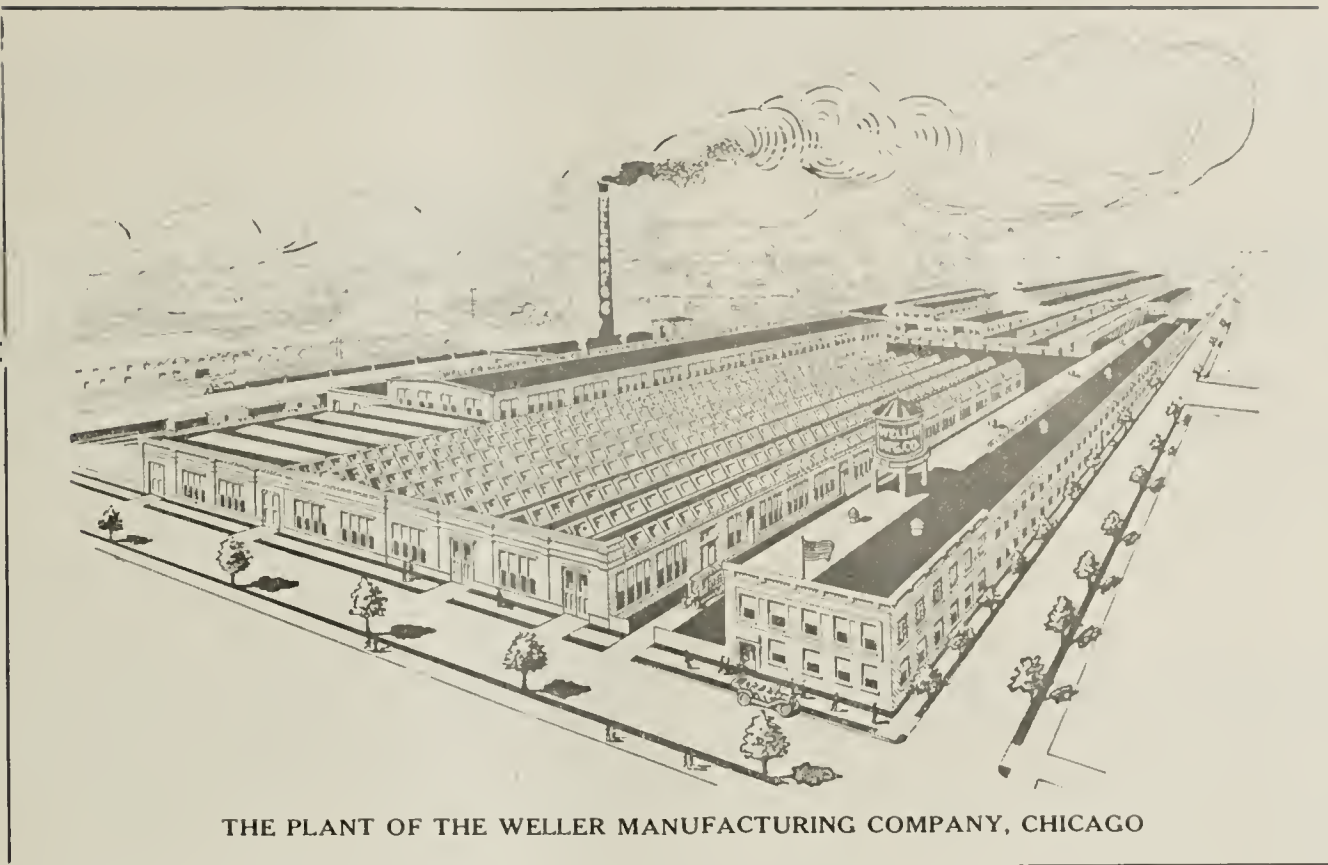
The Cincinnati Clay Products and Supply Co. says that the present is a quiet time, but according to John M. Stoner there will be a very good year from present indications. There is little news in the building industry at present. Mr. Stoner is planning to attend the National convention at New York.

The report with the Builders' Material Co. is that there has been little of note found of late. However, there is a hope that the present year will see a betterment to the situation.

## A TINKERS DAM.

Few people realize that "Clay" is responsible for the expression "A Tinkers Dam." Most people think the expression is a cuss word, it isn't. It's innocent of any intent toward real profanity, and, like improperly used clay products which go wrong it is entirely blameless. A tinkers dam was a chunk of clay which was used by the tinker or mender to make a dam around his solder, to keep it from running all over the piece he was working on. Once used the clay was useless until dampened and reformed and so the old expression, "Not worth a Tinkers Dam," originated.—American Clay Magazine.



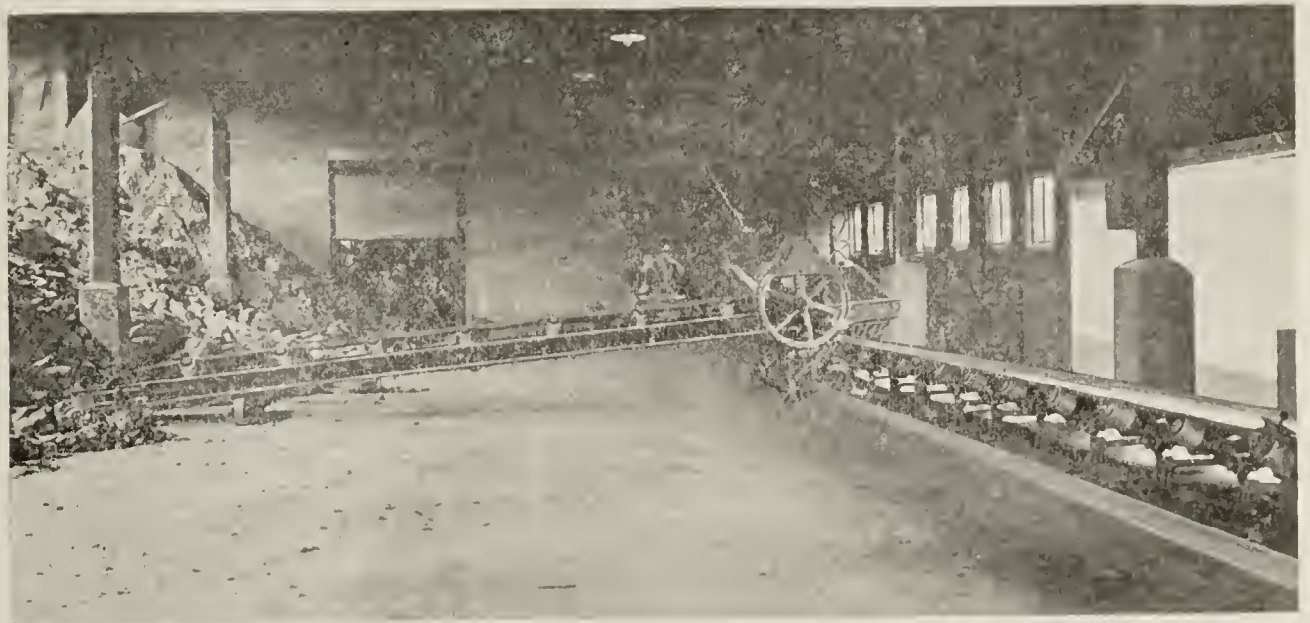


THE PLANT OF THE WELLER MANUFACTURING COMPANY, CHICAGO

## ELEVATING, CONVEYING AND POWER TRANSMITTING MACHINERY FOR CLAYWORKING PLANTS



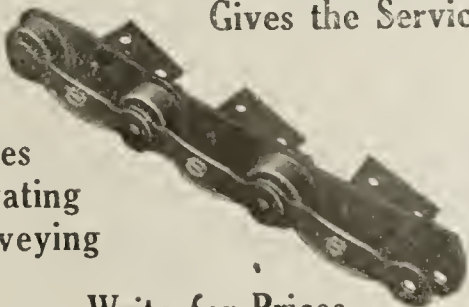
THE MARK  
OF QUALITY



WELLER BELT CONVEYOR INSTALLED IN A CHICAGO BRICK PLANT.

WELLER MADE STEEL CHAIN  
Gives the Service

For  
Drives  
Elevating  
Conveying



Write for Prices

We Design and Make  
Apron Conveyors, Belt Conveyors, Drag Conveyors,  
Bucket Conveyors, Pan Conveyors, Spiral Conveyors,  
Bucket Elevators, Dump Cars, Trucks,  
Pulleys, Hangers, Bearings, Friction Clutches,  
Sprockets, Gears, Shafting, etc.  
Coal Handling Equipment.

*Send us your inquiries.*

# THE WELLER MANUFACTURING COMPANY CHICAGO

New York

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Baltimore

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Salt Lake City



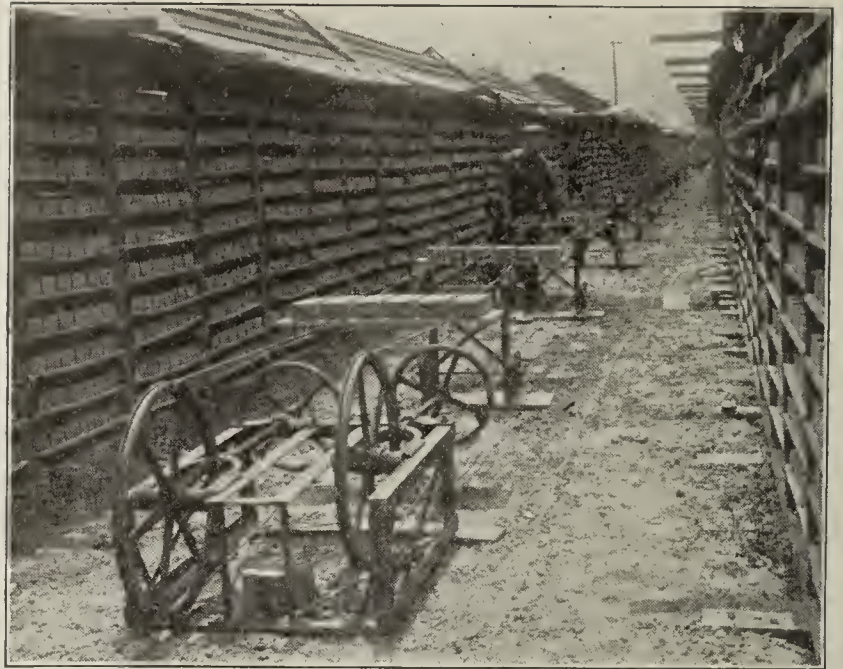
# SAVE

**\$9 to \$15 per day**

**\$54 to 90 per week**

**\$215 to \$360 per month**

**By Using Our  
Labor Saving**



The Conveyor Makes a Turn Without Difficulty. Thus the Brick Are Fed Into Any Section.

## Anderson Brick Conveyor System

Manufacturers of soft mud brick know the troubles that beset them when runways get out of repair and the loss resulting from damaged brick by upsetting barrows and other accidents. In wet and stormy weather these troubles are multiplied, while in summer there is always difficulty to secure men enough to do the work.

### NAMES OF USERS

Installations in the New England states:

| Name                       | Address                                             | No. | Year |
|----------------------------|-----------------------------------------------------|-----|------|
| Donnelly Brick Co.....     | New Britain, Conn.....                              | 1   | 1914 |
| J. W. Holmes Brick Co....  | New Britain, Conn.....                              | 1   | 1916 |
| John Carbo Brick Co.....   | Berlin, Conn. ....                                  | 1   | 1916 |
| D. C. Curtis Brick Co..... | Chicopee, Mass. ....                                | 1   | 1916 |
| Phillip Goldrick .....     | Kingston, N. Y. ....                                | 1   | 1916 |
| J. C. Lincoln.....         | Middleton, Conn. ....                               | 1   | 1917 |
| Charter Oak Brick Co.....  | Hartford, Conn. ....                                | 1   | 1917 |
| Park Brick Co.....         | Hartford, Conn. ....                                | 1   | 1917 |
| Atwater & Dow.....         | Amherst, Mass. ....                                 | 1   | 1917 |
| R. O. Clark.....           | Berlin, Conn. ....                                  | 1   | 1917 |
| R. O. Clark.....           | East Berlin, Conn.....                              | 2   | 1917 |
| R. O. Clark.....           | South Windsor, Conn....                             | 1   | 1917 |
| Stiles & Reynolds.....     | Berlin, Conn. ....                                  | 3   | 1917 |
| Stiles Brick Co.....       | North Haven, Conn.....                              | 5   | 1917 |
| Bridgewater Brick Co.....  | (Owned by Stiles Bk. Co.)<br>at Bridgewater, Mass.. | 1   | 1918 |
| Star Brick Co.....         | Epping, N. H. ....                                  | 1   | 1918 |
| R. O. Clark.....           | Berlin, Conn. ....                                  | 1   | 1918 |
| Stiles & Hart.....         | Taunton, Mass. ....                                 | 3   | 1919 |
| Stiles Brick Co.....       | North Haven, Conn.....                              | 3   | 1919 |
| Robert E. Pray.....        | Greenfield, Mass. ....                              | 1   | 1919 |
| John Connelly .....        | Berlin, Conn. ....                                  | 1   | 1919 |

Besides the above already installed we have installed:

|                           |                           |   |      |
|---------------------------|---------------------------|---|------|
| Beaumont Brick Co.....    | Beaumont, Texas .....     | 1 | 1919 |
| L. E. Shaw.....           | Avonport, Nova Scotia..   | 1 | 1919 |
| Goodrich Brick Co.....    | Epping, N. H. (rebuilt).. | 1 |      |
| E. S. Cook.....           | Bridgewater, Mass. (reb.) | 1 |      |
| Geo. E. Frid.....         | Hamilton, Ont. ....       | 2 |      |
| Ole Arnegard .....        | Hillsboro, N. D. ....     | 1 |      |
| Voelker & Graff.....      | Winona, Minn. ....        | 1 |      |
| Mormon Coolie Brick Co... | La Crosse, Wis. ....      | 1 |      |
| Duck Creek Brick Co.....  | Green Bay, Wis. ....      | 1 |      |
| And others.               |                           |   |      |
| Thornton Bros. ....       | Rudyard, Mich. ....       | 1 |      |
| John Heim .....           | Dubuque, Iowa .....       | 1 |      |
| Berlin Brick Co.....      | Berlin, Conn. ....        | 1 | 1920 |
| Wm. E. Davis & Co.....    | New Haven, Conn.....      | 2 |      |
| Holyoke Brick Co.....     | Holyoke, Mass. ....       | 2 |      |
| East Windsor Hill Bk. Co. | Hartford, Conn. ....      | 1 |      |
| Densmore Brick Co.....    | Lebanon, N. H. ....       | 1 |      |
| Phillip Goldrick .....    | Kingston, N. Y. ....      | 1 |      |
| Zerrenner Bros. ....      | New London, Wis. ....     | 1 |      |
| Hydraulic Press Br. Co... | Menomonie, Wis. ....      | 1 |      |

Now under construction to be operated this season:

|                           |                        |   |      |
|---------------------------|------------------------|---|------|
| American Brick Co.....    | Berlin, Conn. ....     | 1 | 1921 |
| Michael Kane Brick Co.... | Hartford, Conn. ....   | 1 |      |
| North Adams Brick Co....  | North Adams, Mass..... | 1 |      |
| Baton Rouge Brick Yards.. | Baton Rouge, La. ....  | 1 |      |

Nearly all of New England brickyards have Anderson conveyors.

### OUR CONVEYOR SYSTEM

not only prevents these troubles, but reduces the cost of transferring the brick from machine to racks, on open yards, and from rack to kiln, so that its installation will make a dividend paying plant out of one that is now running about even. It reduces the number of wheelers from three to five men on the average plant, and saves from \$9 to \$15 per day.

Tell us your requirements and we will tell you what savings and increased efficiency are possible.

**Let Us Tell You About it at the  
National Convention**

**Marinette Iron Works**

**Chas. J. Anderson, Prop.**

**Marinette, Wis**



## KEEPING PACE WITH PROGRESS

The Brick Manufacturer must keep pace with progress. To do that requires the minimizing of manual labor. With the Penfield System of setting, handling and loading brick, brick is touched but once by hand, and that is by the belt boy. Consider this achievement, and figure out what the Penfield System of mechanical setting, handling and loading brick means to the brick industry.



The prongs of this loading fork have automatic adjustable fingers, which enables it to work and handle 750 to 1,000 bricks at one time right from the kiln to the delivery vehicle.

These adjustable fingers make possible mechanical loading from the the kiln, for the irregularities due to kiln settling in no way interfere with the purely mechanical action of this loading fork.

*Write for our illustrated book, "Keeping Pace With Progress."*

### THE AMERICAN EQUIPMENT CO.

16 9 Conway Building.

CHICAGO, U. S. A.



## Insulate Them

The heat inside your kilns governs the productiveness of the equipment in its entirety.

The heat outside your kilns—that lost through radiation and penetration is the factor that robs the whole plant of its efficiency.

Stop your heat losses and make your production greater.

### SIL=O=CEL

insulation applied to your kiln crowns, sides or bases will stop heat losses at once and for all time.

Kiln insulation is being rapidly adopted by prominent concerns who have the problem of greater production to solve.

They burn a better quality of ware and use less fuel in so doing than formerly.



### SIL=O=CEL Insulation

prevents heat losses from crowns and walls of kilns, boilers and all types of heated equipment.  
Write for Bulletin F54 describing its advantages and application.

## CELITE PRODUCTS COMPANY

New York  
Philadelphia  
Pittsburgh

Cleveland  
Detroit  
Chicago

St. Louis  
Los Angeles  
San Francisco

## Reduce Labor Costs One-Half

Make One Truck Do the Work of Two. Deliver Your Brick in a Neat Hacked Manner, Without Breaking or Chipping.

REMEMBER—money saved on the delivery of your products means an addition to your profits. Meet the increased freight rates. Be independent of labor.

### HOW?

By the use of the

### FONTAINE DELIVERY SYSTEM

Load one body while the truck is delivering the other. When the body is loaded the truck comes and PICKS IT UP and carries it to its destination. In this manner the truck is never idle. Always on the go.

On labor saving alone it will pay for itself in a short time.

Write TODAY for full information.

No obligation.

## THE AMERICAN TRUCK BODY CO.

Martinsville, Virginia

## BRICK AND CLAY NEWS FROM MILWAUKEE AND WISCONSIN.

THE CLAY PRODUCTS industry in Milwaukee and other sections of Wisconsin is not particularly active at this season of the year. However, the general business situation throughout the middle west has already shown improvement and favorable prospects indicate that within a month or two conditions will have made considerable headway towards reaching pre-war conditions.

Excellent business conditions are reported from the offices of the Milwaukee Pottery Co., 70th and Hicks avenues, West Allis. The concern has recently been taken over by the Seebach & Marggraff Pottery Co., which is now employing twenty men and working day and night shifts to meet the increasing demand for its products. Many improvements are contemplated by the new owners and facilities will be increased so that additions can be made to the force and the output enlarged to better meet the demand.

Another point in favor of clay tile in farm drainage work has been made in a recent article issued by G. R. B. Elliot of the Agricultural Engineering Department, University of Wisconsin, in which is told the failure of cement drain tile on marshy land. Ordinary cement drain tile should not be used in the reclamation of peat bogs or other lands excessively high in organic matter, according to Mr. Elliot.

The author has been engaged in experimental work for the last two years, attempting to learn why cement tile gives good results under some conditions and fails to hold up under others. He found that when cement tile are placed in soil high in organic matter and, therefore, high in acids, that these acids change some portion of the cement into a jelly-like substance which is easily washed away by moving water. Cement tile doing service in swamps of this nature were dug up after two years time. In some cases they were found to be almost entirely decomposed, while in others they were found to be so weak as to crumble easily in the hand. Shale or hard burned clay tile doing similar service was not affected by the soil acids.

Certain rigid standards have been suggested by the agricultural department to cement tile manufacturers even where the tile are to be laid on sweet soils. Still higher standards are required where the tile are laid in acid soils. Tests of tile will be made by the College of Agriculture if farmers will submit samples and the name of the manufacturer.

One of the most interesting displays of a "made in Wisconsin" exhibition which was arranged by the Woman's Club of Waupaca, Wis., was that of C. Gmeiner & Sons, showing burned clay products made in Waupaca. The description of the process of manufacture was one of the most instructive. Besides the sand mould product and the stiff wire cut mud product produced in the local brick yards, samples of various colored brick were also shown and it was explained that the different shades result from different methods of burning. The Gmeiner brick yards at Waupaca have a capacity and output of 1,500,000 brick annually.

An extensive campaign that is bringing the word "brick" before the public and which should result in valuable advertising for the clay products industry, has been started in Milwaukee in connection with plans for the coming "buy a brick" campaign to be waged this month by the Women's Roosevelt Memorial Association. Small cardboard bricks have arrived here and each person receiving one is asked to sign and return it with \$1. The funds raised by this method will be used to restore the birthplace of Theodore Roosevelt at 28 East Twentieth street, New York. The drive is also intended to bring forth American ideals as portrayed by Roosevelt.

As far as the brick and building tile consuming demand is concerned at this time in Milwaukee and Wisconsin, there is no particular construction activity during this period. The winter season is now on, although the weather on the whole has been unusually mild. The uncertainty of weather conditions, however, delays starting on new construction, although such as is under way is being worked on whenever a spell of mild weather permits. An active building season is predicted during 1921, to be started within the next two months when weather will permit.

A. BADGER.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

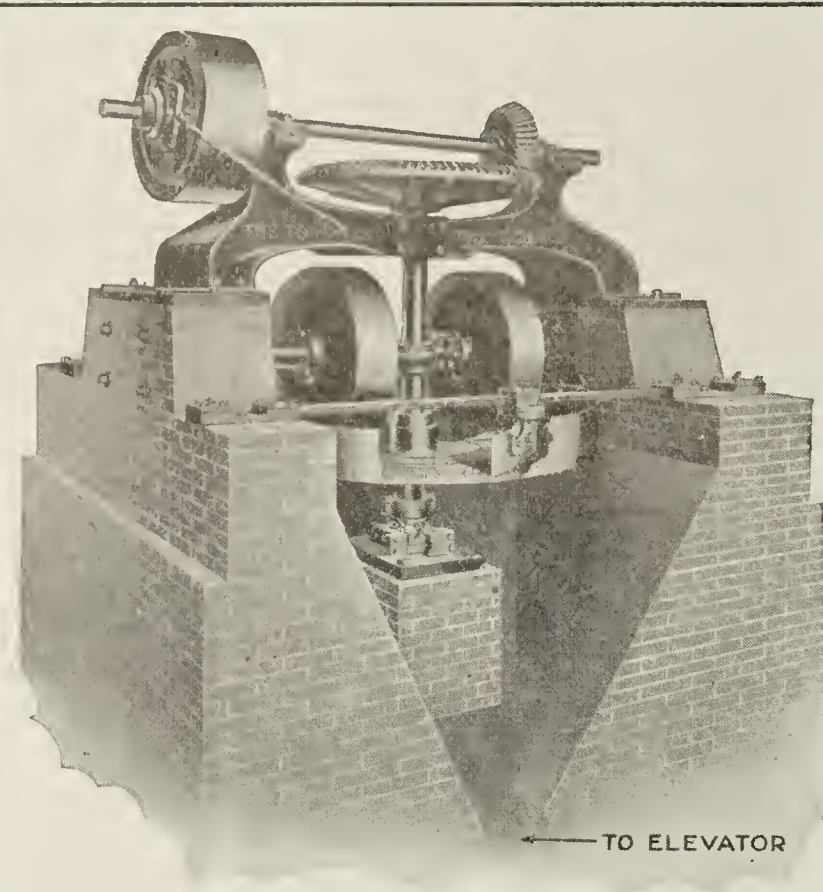
For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

# THE MANUFACTURERS EQUIPMENT CO.

## DAYTON, OHIO, U. S. A.





Type A or Standard Dry Pan, With Hopper Foundation.

Greater efficiency for the machine, with less power consumption, is obtained by this installation.

Write for prices.

**The Toronto Foundry and Machine Co.**  
Toronto, Ohio

This Space Reserved  
for  
Hy-Grade Manganese Co.

Miners and Grinders of  
Manganese Ores.

Mines at  
Woodstock,  
Virginia.

## KENTUCKY TRADE NOTES.

THE BRICK trade and the clayworking industry in Kentucky, like all other lines of industry and commerce, slowed down at the end of the year and the boys in business are at this writing just finishing up their annual inventory and looking over the grounds to see what the prospects are for spring business. The immediate demand for brick is rather light, but locally there are some building prospects getting under way. The indications are that the building season will open early and will be fairly good, perhaps better than in many other cities, because Louisville is showing some industrial growth now that speaks well for business building as well as for general housing.

J. T. Howington, of the Coral Ridge Clay Products Company, says that they got pretty well caught up with their orders and a little stock ahead, then shut down two or three weeks the first of the year to make some repairs. They are in good shape now and are piling up some stocks for the spring needs and are looking forward confidently, but so far it is not practical to give any idea of the possible volume of demand or of what if anything may happen in the way of price readjustments. They have closed their books on the past year's business, and notwithstanding that there was some slow down at the end of the year, the year as a whole showed up satisfactorily.

T. Bishop, of the Southern Brick and Tile Company, says they will shut down for thirty days more or less to make repairs and get in shape for the spring run. The past year's business showed up fairly well as a whole, but they were not able to get in a full year's production because of interruptions of one kind and another. But while it was not a full year it was fairly satisfactory. It is too early yet to predict what will happen in the present year, but the indications are that they will be busy with drain tile early in the spring and that there will be enough demand for brick to take up all they are able to produce as the building season advances.

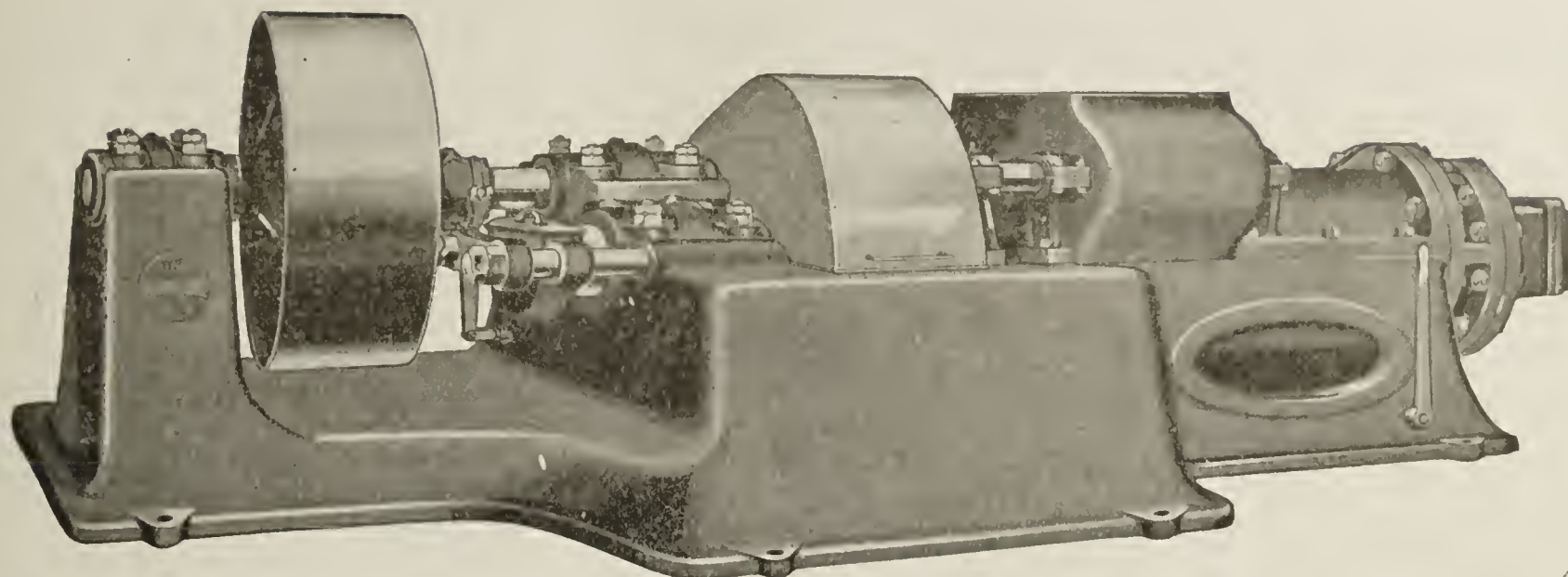
Leo Parsons, manager of the building supply department of the R. C. Tway Company, Louisville, says he thinks the new year is starting out with splendid prospects for sale of brick, lime, cement and other building material. They handle the by-tex line of building brick, and the LaCledé-Christy fire brick line, as well as the Naco hollow tile, and report some good contracts already. Leo had the misfortune to get a foot broken recently with a timber from a wall that was being wrecked and as a result has been hobbling around on crutches. He is getting along very nicely, however, and hopes that the foot will soon limber up and be as good as ever.

The R. B. Tyler Company, which has long been conspicuous in dealing in brick and builders' supplies in Louisville, has undergone some changes in the personnel of the management. Effective January 1, A. H. Fairleigh, Tom Small and John Livingston have taken over and will operate the building supply business of the R. B. Tyler Company, retaining offices at the old stand, 114 S. 4th Street, and the yard and warehouse on Levering Street. R. B. Tyler himself will confine his attention mainly to his quarry and road building interest. It is planned by the boys in charge of the building supply end to carry every item used in building work, except lumber, and they have arranged to control their own lime supply and put out a special brand of their own. They are starting in the new year full of enthusiasm and hopes for a good year, both in the brick trade and in other supplies and specialties used in building operations.

Wm. E. Whaley, distributor of brick, Todd Building, says that while this is the dull season and everything is naturally quiet, there are a few prospects in sight and the indications are that the year as a whole will round out very nicely. So far prices have held steady and as the season opens up trade should become active.

—COLONEL.





# TWO CASTINGS TWO SHAFTS TWO GEARS

## Presenting a New Line of Auger Machines

¶ The Frame, cast entirely in one piece, will outlive your plant--it is NOT composed of parts bolted together, therefore no repairs. ¶

¶ All working parts cradled entirely within the single casting--driving parts slung low--the assembled machine is as solid and unyielding as tho poured from a single mould. ¶ ¶

¶ The design embodies every known requirement in Auger Machines. ¶ ¶ ¶ ¶

Type 425—75000 to 150000 Brick per day.

Type 435—40000 to 75000 Brick per day.

Type 445—25000 to 40000 Brick per day.



# International Clay Machinery Co.

## Dayton, Ohio

New York Office--136 Liberty Street

Mention THE CLAY-WORKER.



# THE ANNEX



NEW YORK

WHEN Hotel McAlpin acquired The Annex, formerly the Martinique, there was established, first the spirit of enthusiastic attention that never fails to assure a guest that his patronage is valued.

Following closely upon this first important step came others which have proved equally successful—among them an expert Bureau of Information and Assistance which enables a guest to leave the details of his arrival, departure and trips he wishes to make to people who are able and willing to assume them.

*Under the direction of L. M. Boomer  
Frank E. Jago, Resident Manager*



32nd Street and Broadway

## NATIONAL CAPITAL TRADE HELD BACK BY BUILDING CONDITIONS—LARGER OPERATIONS HELD IN ABEYANCE.



ATHER CHAOTIC building conditions in the national capital are responsible for much slackness in the brick-making plants hereabouts, although it is claimed by the manufacturers that the past two months have shown a decided tendency to improve general conditions. In fact, it is freely predicted by the brick manufacturers with whom I talked that once conditions become stabilized and building operations secure the essential financial backing the industry will have nothing standing in the way of a good year's business.

Prices on all brick and clay products are holding their own, with no present prospect of decline—in fact, it is predicted in some quarters that with the stabilizing of demand and building operations again in full swing prices will very likely advance.

"To some extent," said Mr. L. Perry West, of West Bros. Brick Co., "the brick trade in and about Washington is marking time. Of course, we are doing some business, but the brick we are selling now are mostly for small operations, and there is not much life in the trade. Chaotic conditions in the general building industry with the present difficulty of inducing capital to finance the larger operations are the two obstacles standing in the way of good business right now, and the brick trade will not approach normal until these conditions are settled.

"Labor conditions are mostly satisfactory, and we find no difficulty in securing workers. The expense of producing remains about the same as it has been for the past six months, for which reason we have been unable to lower prices on any of the grades, and we do not anticipate any price reductions in the near future, under present conditions.

"I do not find myself unduly enthusiastic over the prospects right now, although conditions may brighten up so that 1921 will be one of our good years. With the easing up of finances and a return of general stability in the building industry we will certainly write a good total under our 1921 trade."

Other Washington brick manufacturers with whom your correspondent talked agreed with Mr. West in his analysis of trade conditions, and all predict a quick resumption of trade once the stabilizing process gets under way.

O. W. Ketcham of Philadelphia, well known in the national capital brick trade, has established offices in Home Life Building, on Fifteenth St. opposite the U. S. Treasury, as general representative of a number of out-of-town manufacturers of brick, tile and terra cotta products. Mr. Ketcham reports several large contracts in hand, with others in prospect.

Lewis & Elliott, brick contractors, have entered the field here, opening a fine suite of offices in the United States Savings Bank Building on Fourteenth St. Both members of the firm are successful brick men, and have been identified with the industry for a number of years past.

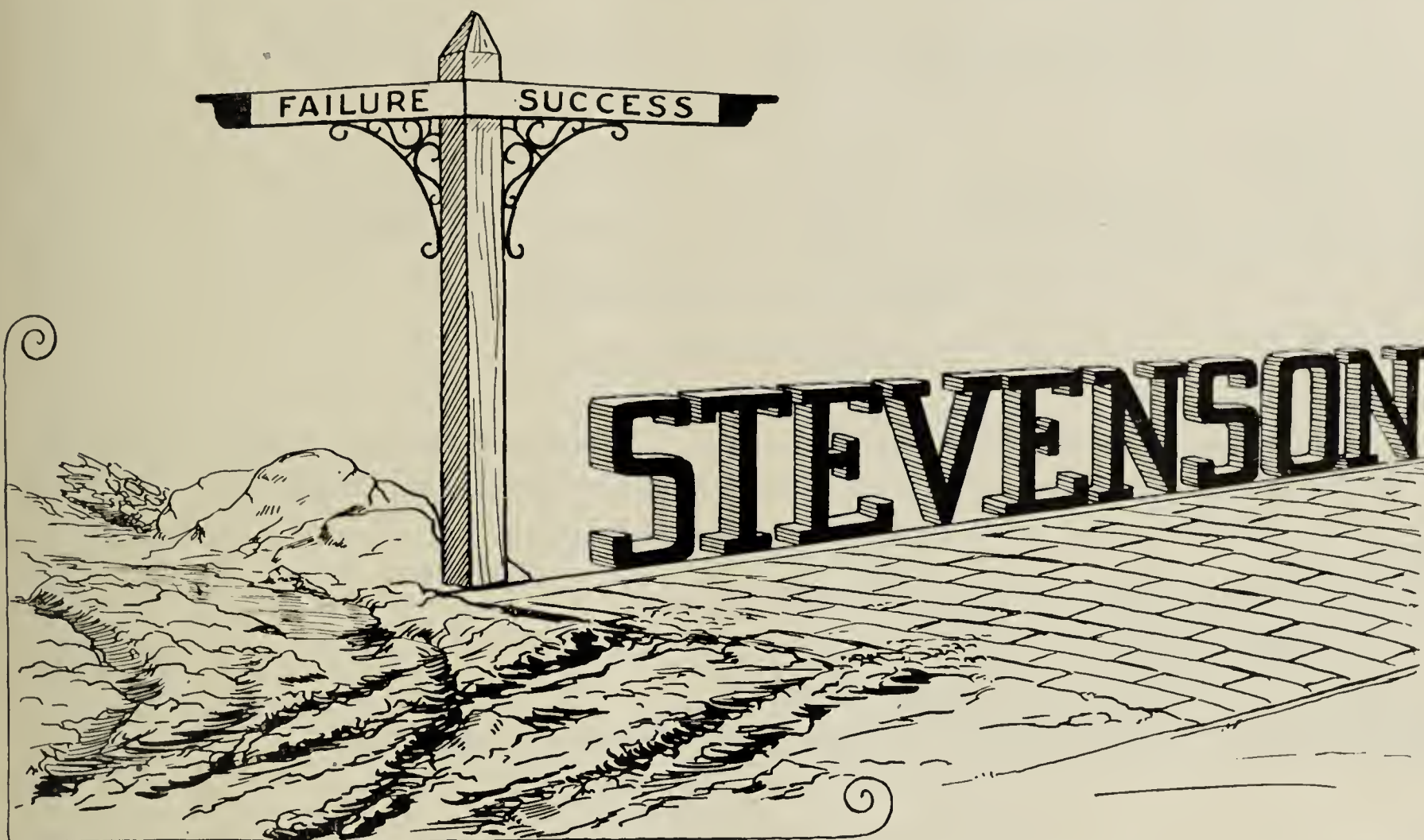
William A. Mills, for a number of years identified with the brick manufacturing and similar industries in and about the national capital, has entered business for himself as manufacturers' agent, with offices in the Walker Building, on Fifteenth St., N. W. Mr. Mills is considered one of the best-informed brick salesmen in this section, and will doubtless win success.

ALTHOMAR.

One of the fine ideas being forwarded by brick dealers is that co-operation is better than buck passing, and that team work beats individual starrng. They preach the same doctrine that helping the other fellow is a good way to help yourself.



# DIVERGING WAYS



## MACHINERY SPECIALISTS

on

DRY PANS      WET PANS

SINGLE-ROLL CRUSHERS

SEWER PIPE AND

TILE MACHINERY, ETC.

*Bulletins on request*

## THE STEVENSON COMPANY

General Office & Works

WELLSVILLE

OHIO

Western Sales & Engineering Office

801—802 Monadnock Bldg.

CHICAGO, ILLS.



**Our representatives will be at the joint convention of the  
National Brick Manufacturers' Association and the Common  
Brick Manufacturers' Association,**

**January 31st      to      February 5, 1921**

**Headquarters**

**ROOMS 116-A    and    118-A**

**Hotel Pennsylvania**

**New York City**

**A new catalog, combining the famous "Arnold-Creager" and "Martin"  
Brick Machinery and brick plant supplies will be  
ready for you, covering**

**Soft Mud Brick Machines--12 types,**

**Pug Mills--7 types,**

**Granulating Clay Feeder,**

**Disintegrators and Crushers--14 types,**

**Winding Drums--5 types,**

**Mold Sanders--2 types,**

**Sand Grinder and Sifter,**

**Sand Dryers--3 types,**

**Clay Cars--10 types,**

**Clay Conveyors,**

**Cable Conveyors--Permanent and Portable,**

**Brick Molds,**

**Barrows,**

**Trucks,**

**Turn Tables,**

**"Martin" Pipe Rack Dryers,**

**Brick Bat Crusher,**

**Transfer Cars,**

**Kiln Castings.**

Successors to  
The Arnold-Creager  
Co., New London, O.  
Originated 1887.

**LANCASTER**

INCOR

**LANCASTER**

**Brick Machinery Department**

Mention THE CLAY-WORKER.



## MADE IN THREE SIZES

1. With 36-inch press box, six brick to the mold, 40,000 daily capacity.
2. With 42-inch press box, seven brick to the mold, 60,000 daily capacity.
3. With one large double shaft Pug Mill and duplex 42-inch press box for 120,000 daily capacity.

The Arnold-Creager S. S. S. Special Automatic Brick Machine is the original Automatic Brick Machine for the production of building brick or fire brick by the soft mud, sand molded process.

It is fully covered with United States Patents.

It is the result of years of experimenting in an attempt to produce a machine that will fill a long felt want of the building brick and fire brick manufacturers. A Soft Mud Brick Machine that will eliminate the large number of men usually required, and do all the work automatically, at the same time producing more superior brick than has been possible with the original hand struck and dumping process. All experimental work is now a thing of the past, as this machine at the present writing is operating successfully in over forty plants in the United States, and in some plants there are duplicate machines, while in one plant alone there are five machines.

It will temper the clay in its twelve-foot Pug Mill; it will press the clay into the molds; it will strike off the surplus clay as the mold comes from under the die and keep the strikings in the machine; it will then bump the molds, and bump them more successfully than can possibly be done by hand; it will then dump the brick onto a pallet, deliver the pallet of brick to truckers or onto a cable conveyor; it puts the empty mold into the sander, where it is properly sanded, and then delivered to the machine to be refilled. All of these operations are done automatically and done better than can possibly be done by hand. The only hand work necessary is that of delivering pallets to the machine. This can be done by one man. The machine can be operated with wooden or any kind of steel pallets. It is equipped with automatic sand feeder which feeds the sand to sander in the proper amount while machine is running. When machine stops the sand stops. The S. S. S. Special is the ONLY Automatic Soft Mud Brick Machine on the market. It saves labor, improves the product and reduces cost.

Among the prominent manufacturers of soft mud building brick who are using this machine, we can refer to:

C. H. Klein Brick Company, Chaska, Minnesota—5 machines.  
Baltimore Brick Company, Baltimore, Maryland—2 machines.  
First Ave. Brick & Tile Company, Evansville, Indiana.  
Hinde Brick & Tile Company, Sandusky, Ohio.  
Burroughs & Mankin, Richmond, Virginia.  
Builders Brick Mfg. Co., Hooper, Nebraska.  
Jas. Cornhill & Sons, Chatham, Ontario, Canada.  
Jova Brick Works, Roseton, New York.

A. F. Smith Co., New Brighton, Pa.  
Salem Brick Company, Salem, Virginia.  
Welch-Bright Company, Monaca, Pa.  
Wisconsin Red Pressed Brick Co., Menomonie, Wis.  
James B. Oberly, Wilmington, Delaware.  
Remillard Brick Co., Pleasanton, Calif.  
Superior Brick Company, Cleveland, Ohio.



The Arnold-Creager S. S. S. Special Automatic Brick Machine, in operation delivering the pallets of brick onto a Cable Conveyor. Pallets of brick can be delivered straight from the machine, or at right angles, as may be desired.

# IRON WORKS

ORATED

PENNSYLVANIA

**JAS. P. MARTIN, Manager**

Mention THE CLAY-WORKER.

Manufacturers of  
"Martin" Brick  
Machinery.  
Originated 1858.

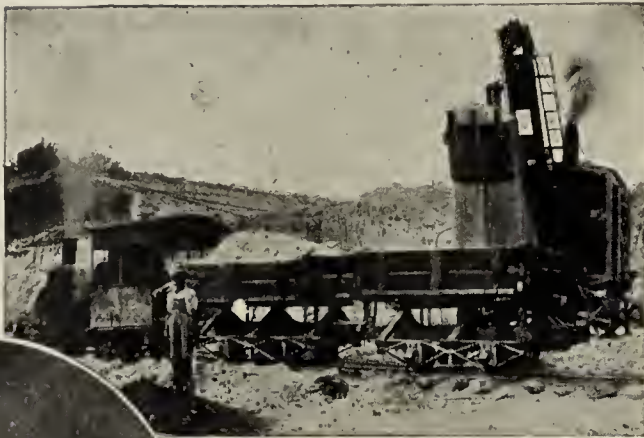


## OHIO CLAY NEWS.

The "A" ERIE weighs 13 tons. Rated capacity, 30 to 40 cu. yds. per hour.

The "B" ERIE weighs 20 tons. Rated capacity, 50 to 60 cu. yds. per hour.

These rated capacities are often exceeded.



**"We are highly pleased with our investment"**

"We congratulate you on having put on the market such a labor saver and efficient worker as the ERIE Shovel. We are highly pleased with the machine installed in our pit—very well satisfied with our investment." Letter signed by J. S. Bone, President Oconee Brick and Tile Company, Milledgeville, Ga.

Just one more sample of the letters that we are receiving from Clay Products manufacturers all over the country.

They prefer the ERIE Shovel because of its large capacity—they appreciate the ERIE most when there is a rush demand for raw material. And the ERIE is **reliable**.

Let us send you full information. Write for a copy of our Bulletin W.

**BALL ENGINE CO., Erie, Pa.**

Builders of ERIE Revolving Shovels and Locomotive Cranes.



Serves either as steam shovel or as locomotive crane, with clamshell bucket.

**ERIE** Revolving Shovels



## FRINK PYROMETERS

the pioneer  
Pyrometer in the Clay Industry.

LET US  
help you solve your burning troubles  
and reduce your costs by  
installing the  
**FRINK METHOD.**

OUR  
many years' experience enables us to  
give the best possible service.

Old Platinum Elements  
**RECLAIMED—REFINED—REDRAWN**

We will gladly tell you about it.

**WRITE TODAY.**

**The Frink Pyrometer Company**  
Lancaster, Ohio, U. S. A.

**T**HE CANTON Brick and Fireproofing Company, Canton, Ohio, which recently was incorporated and purchased the plant of the Home Brick Company, will begin operations March 1, and another big brick corporation, the Midvale Clay Products Company, has been incorporated for \$350,000 by several of the stockholders of the Canton concern. New Philadelphia, Ohio, business men hold much of the stock of the Canton Brick and Fireproofing Company, and they control a greater part of the stock of the new concern. The Midvale Clay Products Company has been incorporated with \$350,000. The new plant to be built by the company is to occupy a site of 300 acres of clay in Tuscarawas county. The incorporators are B. H. Scott, C. W. Burry, H. E. Cole, C. E. Truman and Dr. William F. Demuth.

Following a lingering illness, Cornelius Cronin, 59, vice-president and treasurer of the Standard Pottery Company, East Liverpool, Ohio, died at his home on December 24. He was one of the best known pottery manufacturers in the east.

Capacity of the Alliance (Ohio) Vitreous China Company has been doubled. In its infancy, two years ago, only one kiln was in operation. Products of the plant are diversified. In addition to bathroom accessories, which were manufactured a year ago, a new line of tableware has been placed on the market.

Willard J. McIntyre, of Canton, has been named president and general manager of the Comerstown Clay and Coal Company, of New Comerstown, Ohio. The company recently was organized with a capitalization of \$150,000, having acquired the property of the Kopp Klay Company, consisting of 97 acres of shale and clay, including the same vein of fire clay that is used along the Ohio river by sewer pipe companies. The plant consists of eight kilns and all necessary equipment for the manufacture of brick and fire proofing. It also owns 300 acres of coal, and is mining one car a day. Production, however, will be increased by the installation of electrical cutting machines. Plans are now being made for the erection of a 300-foot continuous kiln, which will dry and burn one hundred tons of clay every 24 hours. James Murray is secretary-treasurer of the company. Operations will be started about January 15.

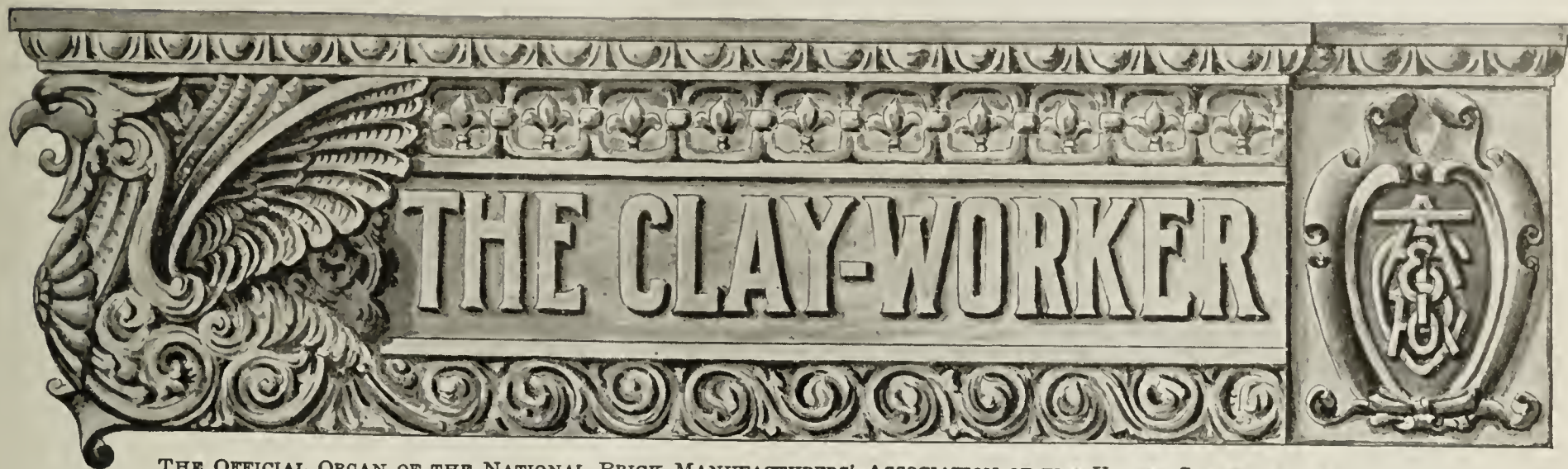
The Bonnot Company, Canton, manufacturers of clay-working machinery announced this week a dividend of one and three-quarters per cent. of preferred stock, payable January 1, to stockholders of record December 20.

The manufacture of clay has been started at the plant of the Davidson Porcelain Company, Chester, W. Va., Willis Davidson, president of the company announces. It is the plan to begin work in all the departments the middle of January. Employment will be given 50 to 100 people. The company, which formerly was located in East Liverpool, is engaged in the manufacture of electric porcelain products.

Three clay plants in northwestern Ohio are closed down for annual repairs. They are the Wolf Lanning Company's plant and those of the Dennison Sewer Pipe Company and the Ross Clay Company in the Uhrichsville district. The plants, which will be idle for a month, will not throw out of employment the 275 men employed. Many of them will be set at work loading stock in the yards awaiting delivery and will be assigned to repair work. A plentiful supply of cars insures early shipment of orders filled several months ago. All orders could not be shipped then because of shortage of cars. A five ton single roll clay crusher has been installed at the plant of the Robinson Clay Manufacturing Company. The crusher is of 200 tons capacity. This week another clay plant has joined the list of seven closed down for the annual inventory and cleanup for resumption of operations in the spring. This plant is at Sugar Creek. Several sewer pipe and brick plants are installing new machinery. Car allotments continue plentiful. All plants will be running in full by March 1, it is predicted by several manufacturers.

REX.





THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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INDIANAPOLIS, FEBRUARY, 1921.

No. 2

# N. B. M. A. Joint Session C. B. M. A.

Brickmaking Up-to-Date: New York City Again Proves a Great Convention Town.  
The Leading Men in the Industry Gather There From All Sections of The Country  
To Consider Economic Measures and Methods for the Betterment of the Business.

A SNAPPY CONVENTION aptly describes the thirty-fifth annual meeting of the N. B. M. A. In attendance and interest the convention rivaled the old time rousing meetings "before the war." Not since our meeting in Cleveland in 1916 has the registered attendance been so large. The appeal for prompt attendance at the sessions was heeded, and the program was carried through in a most gratifying manner. "Pep" marked every detail, thanks in no small degree to the masterly leadership of President Hammond. The spirit of harmony and good will was made manifest in many ways and it is a safe prediction that every delegate took home with him information and inspiration that will prove helpful in a material way during the coming season. Hence in the best sense the thirty-fifth annual meeting may be characterized as wholly successful.

The last delegate on the final numerical roster was Number 371; seven delegates registered too late to be included on the roster, making the total registered attendance 378. There were one hundred and forty badges given to visiting ladies, making the total registered attendance 518. As is always the case, there were quite a large number present who did not register, just why "no fellow can find out." It is one of the unaccountable phases of convention work. Many of the old time members were conspicuous by their absence, sickness and other unavoidable happenings preventing their attendance, but in several instances they were represented by the younger generation and it is indeed gratifying to see the sons of the faithful stepping into the places of the elders, manifesting the same enthusiasm for the work of the organization that has characterized the leaders throughout the long life of the Association. It spells continued activity and success for the N. B. M. A. Indeed it seems as

if the Association is entering a new period of service to the craft, which in conjunction with the Common Brick Manufacturers' Association, representing the commercial side of the industry, augurs for still greater progress in every essential branch of the brick business.

## The First Session.

President Hammond: Ladies and gentlemen, you will please come to order. We have hesitated to call the meeting to order before this because I noticed a stream of loveliness was coming in through the doors, and we never want to dam anything, but especially we do not want to dam that beautiful stream entering the doors. I will ask the ladies not to be backward, but to fill these front seats. I will take this minute to declare to you how comfortable it is as a New Yorker to find the joint convention of the N. B. M. A. and the C. B. M. A., their members and their associates coming together with us here in New York. While every city in America and every one in America has something to be proud of, yet we of New York feel New York is something a little bit distinctive, a little bit—I shall not say superior, because in talking to a Philadelphia man and his wife, they reminded me that New York might do well enough in some things, but that Philadelphia IS, and so that is not for me to contradict. But when all is said and done, we of New York feel that New York is first in a whole lot of things. I may take this occasion to say it holds the record for hold-ups. Let us trust our visitors may escape anything of that sort. I am glad to see men here from Salt Lake City and Texas, and from the far northwest, I am told we have a member from Spokane, I have seen no one else from the coast, but I am sure we will



have some one from California before the week is over. We have visitors here from all over this great land, who are engaged in the manufacture of clay products, and that we may all receive great benefit from meeting together is my desire. Before we proceed, we will have the opening prayer by Rev. Dr. James B. Wasson, of this city.

#### The Opening Prayer.

Rev. Dr. James B. Wasson: Our Father in Heaven, we approach Thy presence in a spirit of thankfulness for the blessings which have enriched our lives, and we pray that as much as has been given us individually and as a nation, we may find pleasure in giving much to the communities we serve. Inspire this great organization of business men, give to each of its members the desire to put the spirit of brotherhood into their business; give them a spirit of mutual fair-mindedness, and a keen sense of justice to both employer and employe, so they may settle the questions that may arise between them in a spirit of righteousness and of good will. Bless all who toil that others may enjoy the luxuries of life. Look down in pity on all Thy children who are in sorrow or sickness. Put in our lives the desire to do something toward making this world a little better for having lived in it, and to Thee, oh Father, be the praise and dominion forever. Amen.

President Hammond: Is Vice-President Dunwody in the room? Please come to the platform, Mr. Dunwody, and I would also like to have Mr. Charles Bryan, first vice-president of the Common Brick Manufacturers' Association, come to the platform. Mr. William Schlake, the president of the C. B. M. A., has not yet arrived, but is to get in this morning, but Mr. Bryan makes a very able substitute. I will ask our Secretary, Mr. Randall, to make any announcements he desires.

Secretary Randall: Our program this year is a departure from former years. Opening at ten o'clock, we are to declare an intermission promptly at twelve o'clock, and the officers of the Common Brick Manufacturers' Association will take the chair and follow their program to a finish, and then the National Brick Manufacturers' Association will again take up the work and finish our program for the day without intermission or adjournment.

President Hammond: During the time between 1914 and the armistice, millions of men were engaged that America and the world might be free from that awful fate. Each engaged gave all they could give; some gave their lives, and others happily returned. Of those who served that way and returned, none bore a higher reputation than he who I am about to introduce to you. He is now president of the Board of Aldermen of the City of New York. I have the pleasure of introducing to you Manager Major Fiorello H. LaGuardia, of New York City. (Applause.)

#### WELCOME TO NEW YORK.

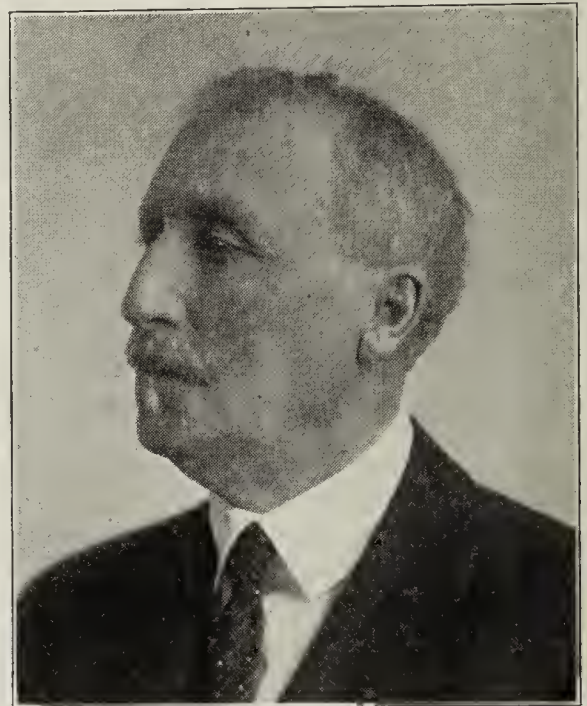
Hon. Fiorello H. LaGuardia: Mr. President, ladies and members of the National Brick Manufacturers' Association and the Common Brick Manufacturers' Association, it is a pleasure for me to officially welcome you to the City of New York. His honor, the mayor, has asked me to extend in his name a welcome. Unfortunately he was unable to be here this morning, and I being next in line, therefore I am here in the capacity of acting mayor. I am certain you will have a pleasant time in our little town. I hope you will. I can assure you there is no great danger of being held up, or other terrible things happening to you. We do not pretend to be any different from any other city in the country. We have that same pride, a local pride, that you have in your own home town. I hope you will

profit by your visit to New York City and if any of you are specially interested in any department of the city administration, that you will take it up with Mr. Young, he will communicate with me, and I will be glad to arrange so you may see New York City function. If you are interested in the welfare work; Department of Public Welfare, or any correction work, or police, or fire, or any department of the city, which you desire to inspect, in close contact, I will be glad to make the necessary arrangements.

I am certain you do not need any advice that may be appropriate at this time. Don't buy any certain stock of transit companies, and that is about all they will try to sell you perhaps. Conventions of this sort are indeed very necessary. I was quite impressed with the introduction of Dr. Wasson who petitioned that you business men do your work and bring a spirit of brotherhood into your industry. I am sure you want to, but will you?

#### A Trying Period in all Industries.

Gentlemen, we are entering just now a most trying period. There seems to be a general feeling of distrust and sus-



Wm. K. Hammond, New York City, President N. B. M. A.

picion. Everyone suspects someone else. Everyone is suspicious of what the other fellow is doing. We have some sort of a body investigating every body, even investigating the investigators. Just how this all will end I do not know, but this distrust, this suspicion that now dominates public affairs is creeping into business, and unless we brace up and have a little confidence in each other, there is no telling where it will all end.

At this particular time in New York City we are very much concerned over combinations to restrain trade, so-called. And if you conduct your convention to the best interest of your industry and to the best interest of the country, I am sure every one of you will violate the state and federal law so many times you are liable to fifty to one hundred years imprisonment, if all the indictments are brought against you. We have gone law-making mad. Now the building industry is under suspicion. I hope before this convention adjourns we may have the benefit of some definite, concrete, reliable information concerning your industry. We need it. We have had a great deal of loose talking in New York City and elsewhere, and we are in need of reliable information. One branch of the industry blames the other. Now if we can as-



certain from you an idea of what brick will cost approximately during the next season—we don't ask anything beyond that—you will be rendering a great service to New York City.

#### How to Stimulate Building.

We have now under consideration various plans to late building by legislation. The only way we can stimulate building is to know how much brick is going to cost; how much cement and lumber is going to cost. You can see to it that we can get information along that line. I believe that a great deal of this artificial stimulation that is now being said to be injected into our building industry will not be necessary, and the only way we can find out is to frankly and fully discuss the situation.

You would be surprised if you could hear some of the stories we get in the course of our inquiries now pending concerning your industry. We were told, and we had only one side of the story, how the price of brick were originally fixed and arbitrarily held up, and that builders did not know



William Schlake, Chicago, Ill., President C. B. M. A.

how much brick would cost from time to time. That there was no competition in the sale of brick and that builders were absolutely at the mercy of your industry. Now, gentlemen, give us some information along these lines. I can think of nothing more useful than taking up these very things and giving us the data which we need, and this is the only opportunity in many years that we will have of having a representative body of men who are representing the brick industry of the whole country. Personally I do not think any conference at this time, expert or otherwise, will solve this problem. I believe the quicker we get back to a normal basis, the quicker we get back to having a bit of confidence and trust in each other, the better it will be for the whole country.

#### Information Desired as to Building Enterprises.

If we can get anything official from this convention, you will set an example, and set the pace for every industry in the country, and I hope you will do it. Today is Tuesday, and we have a meeting of the Board of Aldermen, but I do not believe this particular matter will come up for discussion today, but it is likely to come up next week, so your convention so far as New York is concerned, could not have been more timely. Building has been at a standstill in New

York City practically. We have put up garages, a great many, out of proportion to other building, we have put up a few hotels, a few one family dwellings; we have put up a very small number of apartment houses. We are confronted with a crisis, gentlemen, such as perhaps none of you have in your own city. We arrived at a point where it was necessary to pass the strictest legislation to prevent rent profiteering. We have all of our tenements crowded. Because of the shortage of buildings we can keep all of you busy, I believe for the next season, if we were to put up all the dwellings New York City needs now.

I know you will have an enjoyable time in New York, but I do hope that you will be able to give us this information and give us an idea of what the output or production will be. If everybody is willing to help in this building situation; if congress which is so anxious and so eager to help—and I can speak knowingly about congress, having served two terms, and having only left it a year ago—the thing to do in order to ascertain what production we can have in brick and what the price approximately will be the coming season, is for congress, which controls the freight rates, to give a favorable rate so you can get your material to New York City. (Applause.) Gentlemen, you should in no unmistakable terms call the bluff of congress. You tell them, we give you the brick, you give us the rates. If you do that, New York City will build and so will every other large city.

#### Foreign Markets How to Get and Hold Them.

The war, as President Hammond pointed out, has brought out a lot of things, some good and some bad. Among other things it has brought out the professional leader of drives. Why, down at the city hall we are pestered by men who want to lead drives against this and that, and against the price of brick. So we have all kinds of talk down at the city hall. Why, if we could control that energy, we would not need a freight rate, we could transport the brick right down to the building. I know this convention will get down to business. We have in this country the last three years passed law after law, so that the business man is really hampered instead of being helped. Gentlemen, our industry is not a local question. I tried while I was in congress to drive home the fact that we have to keep our factories going if we are going to keep our people employed and keep our people living up to the American standard of living, and we cannot do that unless we hold a large foreign market. I tell you, friends, 1914 to 1917 business was good because the whole world was buying from us, they could not buy any place else. Our government has done absolutely nothing to hold these newly acquired markets. Before 1914, we had practically no trade in South America. Trade there was entirely controlled by Germany and England. We held it during the war, and since then nothing constructive has been done to hold that market. While other countries were sending their representatives to hold that market and prepare for after the war trade, United States sat still. Gentlemen, you cannot stimulate trade with other countries unless the government takes hold of it. You cannot send out politicians to stimulate or hold the trade; you have got to have business men to do it, and the sooner the government finds that out the better it will be for all of us.

#### Back to First Principles in Business.

We thank you for coming to New York. I know of no convention that can accomplish more good for the city of New York than this convention, and I want to give you this parting word, to give us all the information you can in regard to the building supplies for the coming year. I would like to receive it officially from you and I ought to have it a week from today. Let us lay our cards on the table with



this frank discussion and try to do our part toward getting business back to the wholesome American standard that prevailed years ago in this country. We have got to get things going very soon or we will face a crisis next winter, and therefore it is encouraging and promising that your convention is here to do real business and stimulate one of the largest industries in America. I thank you. (Applause.)

President Hammond: Is it any wonder that he in the air flying over the enemy's front succeeded in the wonderful things which he accomplished over there? Major LaGuardia, as a brick man, I want to thank you aside from what may be said to you in the name of this convention. Brick men are to be pitied, for they have received at the hands of those who are supposed to be benefactors of the people, who have acted in the name of the people, but in the interest of God knows who—certainly not in the interest of those who produce, or those who consume or will use the material and live in the house after it is constructed—disruption, suspicion, distrust, all as you have said, sir.

He has arrived in time, Mr. William Schlake, president of the Common Brick Manufacturers' Association, of Chicago, will respond to Major LaGuardia's welcome. (Applause.)

William Schlake, Chicago: Mr. Chairman, were I to attempt to respond to the address of welcome, my talk would have to be impromptu. I have been extremely busy the past week, so much so that I could not devote any time to an address of this kind. I, therefore, will use my prerogative as president of the Common Brick Manufacturers' Association, and draft my vice-president. I am sure you would rather hear from him than me. You have had your fill of me on various occasions, and I will substitute Mr. Charles B. Obermeyer, vice-president, of the Illinois Brick Company. (Applause.)

#### MR. OBERMEYER'S RESPONSE.

Charles B. Obermeyer, Chicago: Mr. President, Major LaGuardia, and ladies and gentlemen, on behalf of the members of the National Brick Manufacturers Association and the Common Brick Manufacturers of America here assembled, I thank you for the generous welcome extended to us, and through you your distinguished and honored Mayor for the hospitality which you promise us and which I am sure we will very much enjoy in this great city.

We are proud to be here, as men engaged in one of the oldest industries in the world. Before King Solomon's temple was dreamed of, long before the foundations of the pyramids were laid, brickmaking was one of the basic industries of the world, and had developed into a fine art. The great industry of Assyria in the days of Babylon and Ninevah was brickmaking. Enormous numbers of brick were needed, for it was customary to set up the great buildings, temples and palaces on huge platforms made of sun dried brick which raised them out of the floods. Harder brick were used for facing and ornamental purposes, many of which bear the names of kings and accounts of the buildings they set up. It was the custom to build high broad walls of brick around the cities. Excavated from the mounds and heaps of ruins of these ancient cities are found clay cylinders and little tablets covered with small seals, and by their means we are carried right into the magnificent palaces of the kings of Assyria whose names and doings are so familiar to us in Bible Histories, and centuries further back we are led into the busy country life of old Babylonia more than four thousand years ago. By their means too we are enabled to enjoy the first hand particulars of the gorgeous temples of the Sun and Moon gods. These cylinders and tablets are the books and letters of the country, and in spite of the destruction by fire of the buildings in which they were preserved, in spite of occasional damp to which they have been subjected during their long burial, these old books and letters have remained indestructible.

The great King Hammurabi's Code of Laws is the oldest in the world, and they were inscribed on pillars and tablets of burned clay. So through all the ages since the dawn of civilization our industry has been one of the greatest basic industries of the world.

We have suffered the last few years on account of conditions we could not help, but hope now, that the World War is over and the period of reconstruction begun, some of the impediments to our progress and business will be removed. I hope some of the suggestions made by Major LaGuardia may be adopted, not only by the convention here assembled, but by legislative bodies, which can help in a manner that is necessary to the rebuilding of the country and the housing facilities which the country so much needs. We have heard here this morning about the importance of knowing the price of bricks a year in advance of the time they are to be used. Perhaps that is a matter of importance, but we think it is a matter of minor importance. I met a gentleman in Chicago recently who happened to know and told me something of the building of the great General Motors Building in Detroit. The total cost of that building was approximately \$9,000,000, and I was informed nine millions of brick were used in the construction of the building. At the price of \$20.00 per thousand the cost of the brick was \$180,000, or two per cent. of the entire cost, yet if one were to go to Detroit and see that magnificent building the first thought of the layman or the man not skilled or informed in such matters might be that the major element of the cost of the building was the brick which went into it, because he sees more brick than anything else.

Bricks always are worth what it has cost to produce them, and the manufacturer should have added to such cost a reasonable amount for his profit. It is not so important to know



W. E. Dunwody, Macon, Ga., President-Elect, N. B. M. A.

what the cost of brick will be as to know the general conditions under which the resumption of building will be conducted. You are having an investigation now in this city, which I hope does not lead to the door of any one particularly engaged in brickmaking as it does to some individuals interested in other lines entering into the cost of building construction. When these things are taken care of in the way they ought to be, and the house is cleaned where it needs cleaning, it will be better for all of us.

Mr. Schlake stated to you that he has been too busy to prepare a speech in response to the address of welcome. Those who know him well know that he can make a better speech without than I can with preparation. I do not know of anything more that needs to be said in response to the address of welcome than to accept the welcome gratefully. Again thanking you, Major LaGuardia, and assuring you that we will appreciate and enjoy the hospitality of your wonderful city, I hope we will have a successful convention and all enjoy a pleasant week. (Applause.)

#### PRESIDENT'S ANNUAL ADDRESS.

President Hammond: As Major LaGuardia is leaving the room, I want to thank him for saying if two brick men were seen talking together somebody would have them both indicted, look them over, and perhaps incarcerate them, too. He is some man, he talks like a brother, if I have a memory of how brothers ever did talk to each other. It is growing,



gentlemen, in this country: What is growing? Interest in each other's business? Care for each other? Respect for each other? Why you know there is nothing of the kind. Why is there a lessening respect for the courts of justice? Is there a growing regard in the heart of each one for our institutions? You know there is not, and why that is so! I want to know. I have taken up this wonderful program this morning for the first time. Although I am president of the Association and should have looked up these things, but our Master Mechanic is a dandy in taking care of everything that is to be done, Teddy Randall is all right, and he had put me down on this program which he and Ralph Stoddard have worked out and arranged it so it will move along in a groove. I see here that after the response to the Address of Welcome is the President's Annual Address. Now I am persuaded they "Have given me a job." It is my error I did not know about it. I will begin my annual address by repeating the very much respected Mr. Schlake, "I did not prepare anything." I think that is a good thing to say, and if Mr. Schlake got away with it, why can't I? He brought up his vice-president of the Illinois Brick Company, that was easy for him, but he had best be careful. If one of us New Yorkers were to say "My vice-president will speak for me," right away an investigator



T. E. Wilson, Pittsburgh, Pa., First Vice-President, N. B. M. A.

will be at your elbow and he will say "How did you and he come to make that arrangement? Has there not been an agreement?" Mr. Schlake, look out. (Laughter.)

I pick up the program, and I throw it down again, it gives me no inspiration, the yearning to increase, and develop our industry which used to inspire me, and find a response in every brick manufacturer, and every business man, is no longer lawful, men when they meet together, they must not meet. It has been declared unlawful, and in what? In their increase in business, in the development of more facilities for production? Nothing of the sort. "Do you produce to your capacity?" Well, if not then you are an enemy to the people. If you don't produce to your capacity, "Why didn't you produce." Then, "what is the price of brick today in the city of New York?" So much. "How did you fix it?" And when you try, trembling to say, "Well the cost is in it, that is the price we ask, and that is what the buyer pays, and both seem to be satisfied as well as they were ever able to be." "There is a conspiracy. Did the buyer agree to give the price?" "Yes." "Well, then you conspired together." Now it is a fact, a lamentable fact that this condition exists. The Major has spoken of it in terms that I may hope to imitate but not

equal. There has been developed such a feeling of distrust in the public mind, a feeling that the thought of each is I-am-going-to-do-every-fellow-before-he-does-me. There is evidence of it in various places throughout the city. Our business in the City of New York, and let us pray it will not reach on to the rest of you, has been brought to a condition such as the late great Grover Cleveland stated to be a state of Inocuous Desuetude. We might have said to Major LaGuardia, "we have tried to produce; yet nearly all our stock of brick is on hand," we have been asked, "why haven't you produced more, and why do you not manufacture brick in the dead of winter," with your open yards, and sell them at prewar prices, and our reply telling of costs and lack of demand would not be published. Is it not a farce when five grand juries, each one special, FIVE SPECIAL grand juries are investigating building, and they did not start from the scratch. That is the trouble, and the hindmost investigator is bound to get ahead of the fellow who started first. I do not know but what as the Major said it is dangerous for us to be here. Mr. Schlake you have come from Chicago to New York, and you have dared to speak to me. You are a brickmaker, and if it is found that brick in Chicago are being used and bringing a price, and brick men here are not doing anything, they will ask you "How is it, and why is it, and why don't you?"

Now that old independence which formerly characterized an American, that old resolute conduct of his with which he went straight forward on a course without fear, or favor from any one, is all gone, and it may now be known as a spirit of cringing, submission, and wonder "if this law, conflicts with that law." Why, when God Almighty sent down that tablet of stone, there were only ten rules on it, ten little rules for all humanity. Ten little rules, and the State legislature of New York sends out every year ten big volumes of laws. They have been after the brick men twenty years, they have held up, and they have interfered with the men who would erect the buildings, or produce the material and do something for development, and prevent him from getting a reasonable return. These laws on the statute books say if a man constructs a building or if he owns a building previously constructed, he shall not obtain enough out of its rentals to buy liver for the cat. That is the truth!

Why, I observe a gentleman in this audience who is the owner of a number of apartment houses. These apartment houses have been unprofitable to him for years, but the owner is a man of resources, courage and resolution, and a man of splendid character. His experience with these buildings is the experience of many other owners; had he been unable to carry it he would have been foreclosed and the money institutions would have them safely tucked away. But in looking him in the face today, I see his ruddy color is still with him. He still holds the buildings, but when he said a year ago to his tenants, "The rentals you have been paying me are not nearly as much as I have been offered by others, and I would like to enter into an agreement with you, by which you will at least assist me in paying the taxes," the tenants said, "What do you mean, how do you get that way?" "Are you talking about more rent? Well we give you notice to forget it." And from that day until only a few days ago, they never paid anything. That was in October or September, and at last they had to come and pay rent in court, the old amount and the Commission stated the matter would be adjusted later. Oh, gentlemen, to think that in America things are done by commissions—and no business men, no matter in what line, may meet together to adjust their own difficulties, and make their own arrangements. No, a commission must be appointed as in this matter to say whether or not the owner shall be entitled to an increase for rentals, but in the meantime higher taxes have been assessed against the property,



mortgages must be reduced and coal bills must be paid, for the owner must see to it that the tenants are kept warm. Now when it comes, and come it will, to a time when the owner and tenant may come together and arrange their terms without interference from commissions and courts, it will be a case of demand and supply and building will be resumed. We of New York, gentlemen, and you of Chicago, and you of Spokane, and you of Salt Lake City, will not have much encouragement to put our money into plants to make brick until that time comes. There are some courageous men in the business, now and then you hear of a man here and a man there, that the machinery men have prevailed upon to improve his plant. They are mighty courageous men who are doing that. I know of three men in the United States who have done it the past year.

Now I shall speak but little more. I do not want to have happen to me from some of you what happened to me at Columbus, for at that time my friend John Hummert said, "Now, you have raised hell." I do not want you to feel that I have gone into this matter without knowing what I am talking about, and I want each one of you to carry away the thought that we as individuals must come back to earth, back to normal. The commission must be abolished together with the laws which infringe on the rights of merchants and manufacturers and transportation men. I want legislators to make such proper laws and general laws as shall prevent the interference with legitimate business. Each in his own territory, that each individual in his own place of business shall have the right to talk with his neighbor. To say to him, I am getting such and such a price, I am doing so and so, what are you doing, and to exchange confidences, to make arrangements which will take care of credits, will take care of collections, which will increase the output and tend to keep business alive, which will enable them to lay aside some money each year, so that when the time comes when we each shall pass away, there will be something besides your grave for your heirs, and those who come after you to remember you by. It may be we will not have much to leave except those whom we love—I will not talk about leaving a good name or anything of that sort any more. Good names are smirched. As honorable men as ever I have known or hope to know as long as I live, have been smirched for no improper conduct, as I understand it.

Now, gentlemen, that you have come to New York, to meet in convention is to me personally a matter of pride. I am not so humble that I cannot have pride, and I take pride in being a citizen of this great city. At the time when the Committee met in Chicago to decide on where this convention should be held, it was resolved that "out of compliment to Mr. Hammond the convention should be held in New York." I want to say to you Mr. Hammond is deeply appreciative of that compliment, and Mr. Hammond hopes from the bottom of his heart and will labor with all the ability he has, that it will not have been in vain that you meet here. I trust that you will from this convention hall develop such a line of policy, such a line of conduct as citizens as will give notice to legislators all over the United States that they shall keep hands off, except as guardians. That they shall not interfere when two or three men are gathered together, because we have it from High Authority, that "Where two or three are gathered together I shall be in the midst thereof." God shall be with us. There is not a man so depraved but that he knows God is a part of us. It is these men who as investigators assume that God is only with them. You would imagine it to see them strut across the front of the court of so-called justice. When you have accomplished that, when you have developed a plan of conduct that shall place you back in charge of your business as the head of your business, forward looking, holding on to your business, and trying to do that which each of you must have the right to do, it seems to me that you will not have held this convention in vain. Gentlemen, I thank you. (Loud applause.)

Secretary Randall: Ladies and gentlemen, by the courtesy of President Hammond, I will announce the next number, which will also be the last on our N. B. M. A. program until after the C. B. M. A. papers, when we will again take

up our program. I am very glad at this time to introduce to you Mr. Oswald Spier, of New York City, Managing Director of the National Terra Cotta Society. The terra cotta manufacturers have always been among the most cordial supporters of the N. B. M. A., and its work, and it is a pleasure to have Mr. Spier with us. (Applause.)

#### TERRA COTTA AND BRICK.

Oswald Spier, New York City: Mr. President, ladies and gentlemen of the burned clay business, I want to offer you most cordial greetings, first to New York, as a citizen of New York, and then the greetings of the National Terra Cotta Society. I regret that a convention of our society has been planned for Chicago, this week, and therefore, more of our membership cannot be with you. I am leaving for Chicago this evening, so I appreciate your great courtesy in giving me this great opportunity of a word to you at this time. There is really a close affiliation of the brick business, both common brick and face brick, and terra cotta. We feel there is really a very natural affinity between both materials, not only in point of view as history, but as well



The Late Oswald Spier, New York City, N. Y.

in the development of modern construction. In modern construction to which our material applies, we are always in favor of the use of brick for the structural walls. That is the greatest source, of course, of your actual business. It also is the most convenient form and the best form in construction for the backing of terra cotta, for the holding or the anchoring of our material to the wall.

We are coming in contact every day with the aesthetic problems of color. We find this largely in New York; that one of our problems is the matching of face brick. We are called in very frequently to furnish terra cotta in accord with the face and texture of the face brick. We feel, therefore, that you appreciate in the facing of the building, the element of cost is between terra cotta and face brick, and is entirely in favor of brick. That is, we mean the contrast is much larger in terra cotta, and therefore we are forced to go to considerable expense for the particular color that will harmonize with your face brick. Sometimes we will supersede the brick. In other words, there are colors we have developed that the brick men are asked to take our sample and match our particular color. Therefore, my



whole plea is harmony, not only in color, but entirely along the lines of manufacturing processes.

We are using in New York large quantities of brick, and some wonderful effects in common brick are attained. That subject comes to us quite frequently and I have been surprised at your range of tones or colors. That is, of course a small part of your common brick, not only in the tone or color used, but in the forms used, in the joining, in the laying of the joints. I have seen some remarkable effects recently, where the mortar was raked out three-fourths of an inch.

Some of you may remember a club building here, where Mr. McKim very cleverly used common brick in the face of the building. I remember in the Harvard Gates—there a brick from Cambridge was being used in the backing of certain walls, and there were found in them certain delightful colors, so that the man from Mr. McKim's office went to the yards and got most interesting effects, and if any of you are going into Boston you can see these gates, which is a result of experimenting with colors of common brick.

The common brick man said: "We cannot bother with such a thing," but we showed him how simple a matter it was, and several other great buildings were faced with common brick with very good result not only in appearance of the brick wall, but to the advantage of the brick business.

I want to tell you a little bit about the National Terra Cotta Society, and certain lines along which we are working which I think will be of interest to you. The National Terra Cotta Society has recently taken a new lease of life. They have found that in order to do educational work, which we are carrying on, work along standard lines, it requires money. This realization has gone so deeply into their minds that they are furnishing this money. After all, it is not a very serious tax on the bulk of the business. As a result of this co-operation, we are carrying on a very particular line of work, the essential feature of which, I may say, is education of the members. We find this is all very well, yet we are going to educate the country. We found when we got together at first that we were narrow and jealous and had all the traits that human character is heir to. As a result, we are cleaning house and getting very close together. Twenty-five men have a number of different opinions, and we found with the elimination of the ideas of some we are not getting so many differences, and the other man is not so difficult to do business with, and the other fellow is a fine man to do business with. We found in the process of manufacture many things of which we were intensely ignorant. We have been exchanging formulas not only for measures, but for slips and enamels, and for colors of enamels, and we know this is a very important step, when we hark back to the old days.

In the Terra Cotta Society's work, we are using the Bureau of Standards very freely. We have established there two fellowship, men of whom we are paying the salaries, and who are working under the direction of Dr. Stratton and Professor Bleininger, two great men whom you all know well. Professor Bleininger is going to make a report for us to the Bureau of Standards on our types of enamels and glazes, and all that sort of thing on which we can get information from the Bureau of Standards. Our members are sending their experiments, or results of experiments, to our men there, and we are getting most excellent results, and I want to suggest the support of Dr. Stratton in your work, the interest and co-operation and the use of his bureau for all clay manufacturers, and I am sure all branches of the business can find an excellent opportunity to increase their knowledge by working with him. In fact, Dr. Stratton has

to get appropriations from Congress, and he is using as one of his arguments, the fact that the National Terra Cotta Society is working with him, and showing fully what he thinks of this branch of the clay industry. We went to see the chairman of that particular committee in Congress, and he was delighted with the fact that practical business men were working with the Bureau of Standards in actual co-operation.

In addition to this Bureau of Standards work, we are going into a very broad educational work among the colleges. I am encouraged to find in going into the matter with the heads of the architectural departments of several different colleges, that they are not only going to get the subject of terra cotta manufacture in their curriculum of courses, but they will accept from us suggestions for the junior and senior classes. We find there is the same general ignorance among the colleges as there is among the laymen. Therefore, if we can send these men out from college with a better knowledge of terra cotta in construction work, we have taken a great step forward. I therefore think it might be a subject well worthy of your consideration, the co-operation of your associations with the colleges.

In addition to all this, we are carrying on a very broad scheme of national advertising, a necessity with us which does not exist with you. We find ignorance on the subject of terra cotta and its meaning and a knowledge of the material. I suppose in the ratio of about a million to one hundred and ten million people in the United States don't know anything about it. I don't know that we can go into the Supreme Court, but I tried it with a judge whom I knew. I said, "What is terra cotta?" He said, "Oh, I don't know, it is a ribbon of a certain color." Another man whom I asked said, "Oh, a sort of a tile." The ignorance of terra cotta is very deep. One way we can hope to dispel it is through the colleges. We have found men out of college who knew nothing about terra cotta. We have found them in all classes, and we are going to carry our propaganda where the forms of education are started, in the grade schools, and down into the grammar classes, going back to the definition of the subject of terra cotta. We are going through the Literary Digest and as many other magazines of wide circulation as possible right into the homes. In each case, in getting a recognition of terra cotta, we are getting a reaction toward all clay products. We are getting through our advertisements many requests as to the use of common brick and all that sort of thing.

Now I feel that I can only add to the remark with which I opened that there is an affinity between our materials, and we need both of us a perfect harmony in all branches of the business. It has been a very great pleasure to address you. (Loud Applause.)

#### General Discussion.

President Hammond: Mr. Spier, I am sure we have listened to your address with the feeling that we also need some education in the use of your beautiful material, terra cotta. Someone in the audience may like to reply briefly to Mr. Spier. Our time is short, but if there is any such, he will please make it known. That modesty which is such a characteristic of clayworkers, I am quite sure, is keeping quite a number in their seats who would otherwise respond. Permit me to say, we have been very much interested, Mr. Spier, in listening to your address on the subject of terra cotta. The manufacture of terra cotta is an allied industry in that it is not something that is opposed to burned clay, and Mr. Spier has been good enough to say that brick can be used very well in backing up terra cotta—now, don't laugh. That is quite a high compliment, the backer is the man we cannot do without. I want to thank Mr. Spier for coming to us this morning and giving us this splendid address. I also



want to bring out a thought for each of us; I desire that all shall know it and feel it. Here meeting in perfect harmony are two associations, the National Brick Manufacturers' Association, and the Common Brick Manufacturers' Association. The N. B. M. A. in its thirty-fifth annual convention, thirty-five years of association work urging the education and the scientific development, not commercial in any sense, and yet keeping pace with the development of the business. Then comes the question, how far, and how can we develop the business, and now seated side by side is the third annual convention of the Common Brick Manufacturer's Association, and their object is to develop the commercial side of the brick business, and see how they may be sold and how they may be used, and I hope the time is coming when they may be able to say how much they shall bring without fear. These two organizations have met here in the same room to cordially exchange views with each other, which, in my opinion, is one of the best things for the brick manufacturers. We all know that the brick manufacturer has competitors which have developed during the past five years to a greater extent than ever before. One known substitute for brick has been prepared for use in construction, and they have got away with it. Only a few buildings have fallen down as a result of it, but damage has been done, and in using this other material, the brick man has been deprived of customers getting and paying for the brick which we have produced. Let us trust that the same comfortable condition of mind which exists between these two associations may continue into the far future. Let us trust that looking into the far future, we will see organizations several times the size of this one of N. B. M. A. men and the C. B. M. A. men, with, as this wise old secretary, T. A. Randall, has said, "with their wives and their sweet hearts, and others;" now what he meant by others is not for me to guess. But where we shall meet in harmony and with a view solely to the development of our great business, and it is a great business, or was in the past before the war reduced it and called it a non-essential, and it shall be brought back to its former state of prominence, second, I believe, in the products of the earth; when we shall be able to go about our business without fear or favor. If we have worked in the clay, our minds have been in the clouds. Is there anyone here who desires to say anything on the subject of terra cotta?

Herman Matz, Chicago: I waited until the last minute. I did not want my old friend and associate Oswald Spier to go to Chicago and think in the first place we did not know how to pronounce his name, and in the next place there was no brick man here who knew enough about terra cotta to know how to talk about it. Of course, I will admit I did not learn it in the brick business. I was in the terra cotta business about five years before I graduated into brick. Of course, the backing is the great thing, and we know it. Now, I really want to suggest to Mr. Spier that we brick people will say that brick never look as well, face brick never look as well, as when they are trimmed with terra cotta. It seems to me that terra cotta never looks so well as when seasoned with a few brick. It may be only in the proportion you use pepper and salt to season a good dish. But all this trouble he has in matching brick with terra cotta. If he will put the color of the brick right into the wall, in the shape of the brick itself and seasoned up as it will be, then most any color terra cotta will do. I have seen it done. Mr. Spier's suggestion in regard to the Bureau of Standards, is timely, and the idea of having our material given intelligent consideration in the colleges and institutions that prepare architects to use material later, is certainly worth considering. His suggestions are tremendously

important and should be followed. Most of our architects have learned what they know about our materials from the brick salesmen, and our salesmen are going to be so busy in the next few years they will have no time to do any educating, and this educational work ought to be a separate department, and there is a great field in the colleges. I think that the professors with whom I have talked are only too glad to cooperate with the manufacturers of these leading basic materials so they can instruct their students properly in the use of them. I will admit I am from Chicago. This is the particular reason I did not want Mr. Spier to go to Chicago and say no one here knew anything about terra cotta, and I also wanted to thank him for his splendid address. (Applause.)

Secretary Randall: May I say a word, to congratulate this association on this splendid first session. You were punctual this morning, and see the results. The time has arrived when the Common Brick Association will begin its first session. Mr. Schlake, as president, will take the chair and take up their program. After they have finished, the N. B. M. A. will again take up our program for the day.

President Hammond: It is a great pleasure, and I hope it is going to be with a great deal of benefit, that the Common Brick Manufacturers' Association will now begin its functions. Mr. Schlake, president of the Common Brick Manufacturers' Association, will now take the chair.

#### FIRST SESSION, C. B. M. A.

President Schlake: I find myself in the chair, and I see I am really down on the program for Wednesday morning as the time when I will make my annual address. I don't know whether to make my apologies now or tomorrow. I am going to promise you that I am going to assert my prerogative as president, and draft another vice-president a little later, this time a vice-president of the Common Brick Manufacturers' Association. Mr. Hammond is a very hard man to follow. You have listened to a very eloquent talk. Mr. Hammond's command of language is such that I will bet on him as against any man who makes public speaking his profession. I am satisfied I voice the sentiment of every gentleman in this audience, and the ladies, too, when I say that our esteem for Mr. Hammond is in no way lessened by the difficulties some of the brick manufacturers have gotten into in New York City, owing to the investigations. I know, Mr. Hammond, that I voice that sentiment. Mr. Hammond, to my mind, stands above any besmirching that may try to pull down his reputation. (Applause.)

Now, gentlemen, our principal session will be tomorrow morning. Our secretary will demonstrate to you that he has accomplished something that will put the brick business on its feet. I wish to announce at this time, because there is a large assembly here, that our meetings will begin tomorrow morning at 10 o'clock, not 10:15, or 10:10, nor even 10:01. We will start proceedings tomorrow at 10:00, so I hope every one will show up promptly. Mr. Charles H. Bryan, the vice-president, will take the chair. (Applause.)

Vice-President Bryan: Members of the Common Brick Manufacturers' Association, and of the National Brick Manufacturers' Association, ladies and gentlemen. This is a little by-play of Mr. Schlake's. He is a candidate for office of President, and so am I, and we are having a little pull back and forth. I am supposed to say a lot of nice things about him, and I am not going to do it. As presiding officer, I am going to push the proceedings right along, and we will now hear from Mr. Allen E. Beals, of New York City, who will address you on the subject, "Business, Retrospect and Prospect." (Applause.)



## BUSINESS RETROSPECT AND PROSPECT

Allen E. Beals, New York, N. Y.

Mr. President and Gentlemen of the Convention:

Your program has me down for a talk on "Business, Retrospect and Prospect." The title was suggested by your secretary and the more I pondered it the more impressed I became with Mr. Randall's sense of humor. Note carefully the words immediately following the word "Business" and you will see that when you are asked to view the subject with hindsight and foresight a pair of "specs" are vital aids to the process. From my own observations it is extremely doubtful if you will find much that looks like real business even with the aid of the most powerful "specs," as you trace the events of the last half-decade.

My part in this great convention is a most modest one, because I find myself in the uncomfortable position of an outsider telling those of you on the inside of matters with which you are vastly more familiar, as practical manufacturers, than am I. The subject to which I have been assigned to speak, is one that calls forth the oratory of praise and



Allen E. Beals, New York City, N. Y.

commendation to you for your patience and perseverance during a most trying and perplexing five years. It calls for the oratory of a seer or prophet, but being neither a clairvoyant nor profiteer, I feel my impotence ere I have even addressed my topic.

I shall assume to address you as though you were a board of directors met to ponder the past and weigh the prospects of the immediate future, and as the only safe means of gauging the probable course of events that are to transpire is by measuring the course of those same events in the immediate past, I shall ask you to step back with me a few years so that we may find the nebula out of which the present business fabric evolved.

The year 1915, with its 613,000,000 square feet of construction erected, marked the point of maximum expectation for all building material manufacturers, although the growing restlessness of Mexico, cast its shadow over the investment markets, especially as they touched the mortgage situation. But the momentum gained by the increasing pressure upon supply as felt in the closing months of 1915 resulted in production schedules that lapped well into the middle of 1916, when with construction topping the highest peak the country had ever recorded up to that time, 624,000,000 square feet of construction was erected, representing an output of

basic building materials totalling the unheard-of figure of 1,700,000,000. Building material plants were operating up to 85 percent of capacity, a level which has not since been attained.

Toward the latter half of 1916 building material producers began to feel the humidity of coming darksome events. The war clouds of Europe were beginning to sweep over the world. Money began to feel the chill of caution. Labor began to rally around its home-land colors and the rate of building material production began to slough off as plant capacity dropped to lower percentages.

Something like artificial stimulation was applied to construction work in general in 1917 and by summer the intuition of material producers began to be realized in a decided slackening of building demand. This movement was definitely articulated when, following the declaration of war by this country, the year closed with only half the amount of square feet of construction completed, or 358,000,000 square feet.

American participation in the World War was just as truly without precedent in relation to building material as it was to diplomacy, finance and commerce. No manufacturer could turn to his old records to discover his course of action in a period of such national emergency in any since like that which existed in 1918.

The story of the patriotic sacrifices of the clayworking industry has not yet been adequately written, but it nevertheless deserves a niche in the annals of spontaneous cooperation and endeavor to surmount almost insurmountable obstacles. A chapter could be devoted to the part that brick played in the war-winning program. Factory extension, housing development and other war time requirements for safe and fireproof construction soon sapped the reserves in manufacturers' hands.

I well recall the shudder that passed over me when I confirmed the rumor that production of clay products had been doomed to curtailment to the extent of 50 percent of normal capacity. I chilled at the contemplation of an eventual peace time condition arising out of a barren national brick supply in the face of a demand even then developing for homes and commercial structures and the effect such a condition would have upon prices and our national welfare. I was moved to vigorous protest when on top of all that the order came curtailing the supply of fuel to clayworking plants to the extent of curtailing production to between 25 and 30 percent of production.

Careful analysts of the building situation were alive even in those days to a condition of counter-bidding that eventually would lead to a national stalemate in building construction and we have passed through an actual fulfillment of that contemplation. We have seen what a national shortage of basic building materials can mean to our national prosperity and it shall be the purpose of this paper to outline to you the evolution of those events.

But before that could come to pass, there seemed necessary, a further decree finally shutting off all so-called unnecessary construction entirely and the potential consequences of this order constituted the darkest days of the war-time period.

The depth of despair is best shown by stating the drop in square footage of all building construction completed for 1918 from 358,000,000 square feet in 1917 to only 185,000,000 square feet in 1918, representing a total construction outlay for the country only a shade greater than the metropolitan district of New York would require for a single normal year.

### Objected to Aiding Unnecessary Building Construction.

When the armistice was signed there flashed forth from Washington a telegram asking the advice of the construction industry as to the advisability of immediately releasing all



the bars of restriction upon so-called unnecessary building construction. I was subsequently informed that mine was the only voice raised in protest against such precipitary action.

That objection was based upon the knowledge of an inadequate supply of basic building materials in the hands of manufacturers and on the advice of the Department of Labor that labor was not to be immediately re-allocated to peace time industries. When the War Department advised that it would be the better part of a year before the men in uniform overseas would be returned to this country, there seemed to be nothing developing out of such an order as a literal stampede for building materials.

The year 1919 developed a record of 458,000,000 square feet of building construction erected. Note the difference between that volume of completed building erection and that of 185,000,000 square feet for the year preceding it, and you need not be wearied with any further recounting of the basis for the opposing telegram.

Let us see how this stampede developed through 1919 and 1920.

#### How the Stampede Developed.

Nation-wide commerce was hungry for world trade. We all recall the process of business expansion. Mills resumed and sought in the market business in sufficient volume to keep their greatly expanded war-time mill capacity employed. Other lines soon began to feel the buying power of several million men in uniform pouring into this country to purchase citizens clothing, marrying and otherwise taking up the pursuits of peace.

The war-time policy of cost-plus construction in 1919 taxed the capacity of all basic building material manufacturers. Cost seemed no object. It was merely a matter of immediate delivery.

Small wonder it is that with such impetus the square footage of completed construction for the country reached the half billion mark in 1920 representing in money value the appraisalment of the entire building material production capacity of the country, totalling almost \$1,700,000,000 of the year 1916.

That figure represents total market value of all basic building materials, but it represents a production capacity of far less than the 85 percent at which material plants were able to operate in the year preceding the declaration of war.

In other words, building material value was raised to an unaccustomed height by pressure of demand and it is almost a country-wide question today as to whether this valuation is to be maintained in 1921 and 1922 and beyond, or whether there is to be a permanent recession in building material values.

#### The Causes of Upheaval in Building Material Valuations.

Before we leave the retrospective, let us trace, briefly, the causes of this tremendous upheaval in valuations of building materials by following the process of cause and effect.

Commercial enterprise found itself at the close of hostilities with a potential buying movement that seemed to give promise of long duration. Cotton, wool, grains, metals and all the commodities familiar to the daily market report felt that the time was right to prepare for the vast era of prosperity. Buying developed with lavish hand and it soon became apparent to manufacturers of ordinary commodities that the way to perpetuate this buying movement was to expand their plants. They argued that the way to permanent prosperity was to produce in quantity and by thus leveling demand with supply, or vice versa, it would be possible to bring about a reduction in the national cost of living in comfortable graduations.

Never before had a condition arisen when the merchant went into the market that he could not buy at will and in quantities he required such commonplace commodities as

brick, lime, steel, cement and even sand and gravel, not to mention electrical conduit and similar equipment.

His consternation was profound when he discovered that no matter how good his credit, or how urgent his need, that these basic building commodities were not available even in the most meagre quantities on specified date. The merchant could not expand his store, the manufacturer of cottons and woollens could not expand their mills as the exigencies of the existing retail and wholesale markets demanded, even though he were willing to pay premium prices for spot deliveries or even approximate specified deliveries.

That point, in my estimation, marked the turn in national prosperity. It was the fulfillment of the stampede conditions that were foreseen clearly when the Government declared that common brick was a non-essential commodity and that the basic building material industries of the country were the best able to sustain the most drastic fuel restriction orders. The United States of America has lived to see a practical demonstration that Brick can be King, along with Coal, Cotton and Steel, each in its turn.

The only alternative was for the household commodity manufacturer to utilize his inadequate factory capacity to the best purposes possible and he promptly turned to quality production instead of quantity production and charged accordingly and up went the Cost of Living with a bound.

We now find ourselves in our retrospective tour at the middle of 1920 with the Presidential election fast approaching. Factories are beginning to find that they cannot by mere resolution of a Board of Directors, turn about the basic fundamentals of economic law. Quality production with attendant fictitious price levels cannot be maintained when the buying power of the public is curtailed either by necessity or by protest. Estoppel is sure to follow and that is precisely what has taken place.

#### Present Day Situation.

The situation as it presents itself today is:

1. Demand for building construction exists.
2. Supply of building material is still far below normal.
3. Investment powers of the United States are greater than ever before known.
4. The subject of adequate space provision is higher in the public mind than it has ever been before, insuring immediate action either from private or public sources.

Stepping now from the retrospective into the prospective point of view let us note what destiny has placed in our path.

The one thing that characterizes the immediate future and dominates the horizon is Demand. In other years this factor has been a matter of conjecture. This, today, is the one certain thing in your calculations.

Then what about supply? Your rail transportation problems will not present the same obstruction to your progress that characterized your schedules of 1920. Labor, for a time, probably will be more efficient. It will not be permanently cheaper, at least for a year or so. If you are banking upon an influx of immigration, release yourself from this deception before you are disappointed. Much was heard last year of the inpouring of wheelbarrow labor, but little was heard of the outpouring of the same commodity. P. A. S. Franklin, of the International Marine shows in his annual report issued this month that the net gain in immigrants for this country in 1920 was only 181,000 and most of there were agricultural laborers and with them came their wives and children, thus making probably a net gain in labor supply of somewhere around 50,000 men. We have impending anti-immigration laws in committee at Washington, which, being favored aggressively by organized labor, stands a good chance of enactment.

#### Coal Situation to Improve.

Fuel manipulation such as harrassed you in brick production during 1919 and 1920, is being inquired into vigorously and when the limelight of publicity is turned upon conditions that retard the production of a commodity around which hinges the solution of a national emergency problem, easement can at least be hoped for.



When the United States Senate delegated the task of discovering the cause of the stagnation in building construction industries, to The Committee on Reconstruction and Industry, it probably thought it would trip up on a fine entanglement of artificial manipulation.

But when the report is finally completed it will probably show that the brick industry emerged from the war time restrictions deep in the vale of despond and dragged itself up out of the abyss unassisted by the same sort of paternalism that plunged it almost into a state of approximate oblivion.

It is probably a matter of vivid memory to you of the craft that immediately after the armistice was signed the splendid men of capacity and experience who succeeded in no small measure in bringing the war to a speedy conclusion, through co-ordination of various industries, etc., promptly packed their grips and went home to re-establish and retrieve their own personal business affairs. Those who were left to aid in bringing the American industries that were thrust out of alignment for war purposes, back upon their feet and in approximately their former relations to their markets, were of a different type and were apparently more beset with ideals than with practical ideas.

#### The Attempt to Stabilize Building Material.

We recall, as one glowing instance, the attempt to stabilize building material and other prices at the very start of the reconstruction period. Even the law was appealed to to strengthen this effort, although practical men knew that there was an inexorable law of supply and demand that would function whether or no.

No one in authority seemed to sense the necessity of giving fuel and labor allotment priorities to the clay working industry in appreciation of the sacrifices it made and often were forced upon it during the war emergency, so as to permit a reserve stock to be piled up before the national stampede for building materials should start. There would have been nothing like the present housing shortage had such a course been followed.

As we look into the immediate future is not the situation somewhat analogous to that of the period about which we have been thinking? Then, there was a potential demand. Now there is a potential demand even greater. Then, there was an inadequate supply of basic building commodities. Now there is a similar shortage. Then fuel prices were high. So they are now. Labor was an uncertain factor then. Ditto, the present.

No one at that time expected 1919 to develop the construction movement it did, but the friction of world trade fired the minds of business men and they prepared, or rather, tried to prepare for it. The world trade is still a potential factor and will become an actuality as the rate of exchange becomes more closely adapted to the changed political conditions of the world.

But even discounting that factor, which is a possibility of the future, rather than of the immediate present, there is the unsatisfied demand for housing, now fostered by public opinion backed and crystalized by state and national quickening of interest in the subject.

#### The Tendency Today.

There is enough housing work on the potential slates of architects to make up for a normal building year of a billion dollars. Such a total would absorb every brick you could produce with the rate of production under which you have been operating for the last year or more. This class of construction has been neglected to a considerable extent since the signing of the Armistice because commercial construction seemed to afford the investor greater security in the form of longer leases and at higher rentals. The tendency now is to enact legislation that will place a premium upon non-residential types of construction, except where it can be proved that it is not for speculative purposes.

The building industry finds itself at the beginning of the new year conspicuously in the public eye. It is unaccustomed to such a conspicuous place in the world's affairs. The people are beginning to find out that there is something else besides

mud, coal and labor in the production of a brick. People are beginning to realize that brick is synonymous with shelter and holds a place in equal prominence and respect to the cotton or the wool that makes the garment or the wheat that insures us food. The public is beginning to sense the fact that brick is not merely gathered from the nearest mud-hole and streaked with straw and laid in the sun to dry. It is to awaken to the fact that brick is the product of brains, and capital, careful organization and administration just as is steel and cotton and wool and wheat. The mud and the labor are in the same category as the southern cotton field and the ranging sheep, neither of which function in our scheme of life unless started on their way in a useful career by capital and men of capacity and ability.

#### The Part American Brick Played in the War.

If you wonder why we are heading into 1921 accompanied by investigation and inquisition, it is because the building material industry is at last coming into its rightful position among other vital commodities that make for the comforts, peace and prosperity of a nation. No one, in authority, in the past ever bothered very much about you or your product until they realized the fact that American brick bats had just as great relative part in winning the war as did American steel and American ships. Let it be remembered that American steel and American ships may have taken the boys across the pond, but it was American brick in American storehouses in France and England that kept the American fighting food fit for American fighting men.

There are tradition and conditions in the clay working industry that are unknown to the public. Most people, I find, still think that a brick cannot be made without straw. The great American public does not realize why brick cannot be as plentiful as the grains of the sands of the sea. These investigations are going ultimately to bring your industry to a higher status among other American industries but when the State or Federal Government starts out to inquisition your product into a condition where you are expected to sell your product below cost of manufacture, then you are going to find it necessary to present your side of the matter at the time and place it will do you the most good.

Looking out into 1921 should not bring visions of disquietude to you. It will not be a year of very early resumption, but there is in prospect a demand that may develop into a stampede like that of 1919 as the year progresses toward its meridian. Building material manufacturers are preparing their schedules along this line, namely, that of caution, until they can safely sense the year's demand and then to prepare for the biggest year of all in 1922. Their greatest asset is demand, and of that the best approximation any one can make is that it is sure. (Loud Applause.)

#### General Discussion.

W. E. Dunwody, Macon, Ga.: I move a rising vote of thanks for this very able paper, and that the paper be published in pamphlet form and sent to the members of both associations by the secretaries.

Seconded by several and carried.

Mr. Hammond: I wish to say, gentlemen, that Mr. Beals is the Dow Service, and the Dow Service is Mr. Beals. Mr. Beals thinks in figures and burrows in statistics more than any man in America, and I say it advisedly, because I came in contact with his work at Washington, and it extends all over the United States. He gets his information from Washington, and from every state in the Union in an official way. What he has said to you is by authority, such as no other man connected with the business, or any other business can duplicate, and the delightful part of it is, he is our friend. (Applause.)

Vice-President Bryan: We will now have a paper by Miss Estella T. Weeks, head of the Research Department of Hoggson Bros., of this city.

Estella T. Weeks, New York: Mr. Chairman and ladies and gentlemen, I come before you with no little embarrassment. I trust I may meet the requirements of the minister who said an address should always be long enough to cover



the subject, but short enough to be interesting. His topic that day was "Woman's Dress." (Laughter.)

#### WHAT CONSTRUCTION HAS MEANT AND WHAT IT MEANS TODAY.

ESTELLA T. WEEKS, HEAD OF THE DEPARTMENT OF RESEARCH AND STATISTICS, HOGGSON BROTHERS, NEW YORK, N. Y.

*Gentlemen of the Convention:*

I stand before you today in the not at all enviable position of daring to ask brick men assembled here for the purpose of talking brick, to turn their thoughts aside for a few moments to a consideration of that industry, without which brick could not exist.

I refer to the construction industry and I want to take you clear back to the beginning of construction so that when, later, I speak of the present needs of the industry you will see those needs in the light of history.

#### What Construction Means.

Construction is not merely building houses, factories and office buildings, but irrigation and reclamation projects, mines and power stations, mills and granaries, highways and bridges, railroads and rolling stock, ships and docks, telegraph, telephone and cable systems and the sanitation of cities.

Twentieth century developments, you say? Construction is as old as the human race, older, for the beaver builds his dam, the mole his subways, the spider his trap doors. The story of construction is the story of civilization. No more ancient record of civilized man exists than was recently uncovered in Turkistan on the sites of the prehistoric cities of Anau and North Kurgan. Here thousands of years ago, cities rose and fell and other cities were built upon their ruins.

On the site of North Kurgan nearly 12,000 years ago men lived in houses of sun-dried brick.\* Through all the ages we find clay in use, moulded in nature's own lines, like the cracking bed of the Nile or our own Connecticut River at ebb tide, pressed and bound with that "straw" which proved the cause of the first "strike" known to history,\*\* dried or burned in multiple units convenient to the mason's hand.

Brick vastly influenced the so-called "styles" of architecture, often because it was the compulsory medium of expression and utility. Yet brick was extensively used even by the Greeks and Romans who excelled in the arts of building with stone. Nor has it lost its universality of use even in countries where wood is plentiful and its use highly developed. Brick bears the record of business as well as of construction, for tablets of clay have been found which tell of income taxes in Babylon thirty-eight hundred years before Christ. In writing the history of clay and brickmaking, one would write the history of housing, of manufacture, of transportation, of science and indeed of social development.

Five thousand years ago Egyptian rulers were struggling with a problem of unemployed labor not unlike that which England's statesmen are confronting today and which we may be compelled to face in the near future. Egyptian rulers arrived at the solution of using their idle man-power on government works, canals, reservoirs, temples and pyramids. The great pyramid of Cheops, of the 17th Dynasty, covered 13 acres and it took, Herodotus tells us, the continuous labor of 100,000 men during 30 years to build it. The record of the use of brick in the pyramids is a long and fascinating story.

Walled cities were common in these ancient lands and famous centers of trade were thus "stolen from the desert" by construction's powerful hand. Irrigation, the purification of water supply, the grouping of structures in streets of trade, and an increasing attention to the building of homes of wealth and places of worship, barter, and congregation called for a remarkable development of the construction industry. And brick was the ever-present aid or foundation in all these kinds of construction.

Rome added road building to the other architectural developments which that nation had in common with Greece. These roads knitted together the Roman Empire—the largest the world had ever known up to that date. Warlike in spirit, ever on the road for conquest, retrieving prisoners both to labor and to teach their native arts to Romans, the Roman people had to develop their roads. Agrippa's famous road map (made in the First Century, A. D.) shows the location of 52,950 Roman miles of road extending from Britain in the northwest, via Rome, to Jerusalem in

the far southeast of the empire. In the ancient days the City of Rome knew many associations of smiths, carpenters and weavers who grew to great power. These associations grew and changed in character from year to year; they are the real progenitors of the labor unions of today. The builders of Rome have left many records of their remarkable achievements in construction, as for instance, their aqueducts, viaducts, open air theatres, circuses, the Coliseum and the Cloaca Maxima (the great sewer).

Greece and Carthage gave the world harbors of great renown. The world's most famous lighthouse is the Colossus of Rhodes, long considered one of the seven wonders of the world. None of these harbors, any more than the harbors of modern cities, could completely serve their use until excavation and dock building supplemented the natural harbor.

So while the tide of building spread northward by degrees, following the ancient channels of the Roman roads, new cities rose in Italy, cities of commerce on a scale hitherto unknown. The merchant ships of Venice came to number 3,000 in the 14th Century. These met ships from northern Europe with timber, textiles, tin and furs. New crafts arose in the Italian cities and from them sprang the famous guilds, also progenitors of today's unions. The Florentine guilds were of two kinds; the "greater guilds," including those of lawyers, bankers, salesmen, physicians, merchants and manufacturers, and the "lesser guilds" of smiths, carpenters, masons, shoemakers and butchers.

The bankers of these ancient cities are responsible for much of the development of construction in their day. Their palaces and



Miss Estella T. Weeks, New York, N. Y.

public buildings, their ships and caravans from distant lands called for all the best work of the artisans of their day. Their dealings in trade and finance yielded funds that went almost exclusively into construction and its attendant trades. To them we owe much in art, architecture, painting and design, much too in encouragement of growing scientific experimentation which laid the course for later ages to develop. Arithmetic, commercial paper (bills, checks, etc.) accounts, banks, credit as we know it,—all these were vastly developed by the patronages of the Italian Medici and their kind in the middle centuries.

The church was the other great construction influence of the middle ages. From the 4th Century on, religious pilgrimages increased and after the Fourth Crusade in 1204, A. D., trade mingled largely with the religious objective of these pilgrimages. Venice and other cities claimed their share of the spoils. Venice's share after the Fourth Crusade was three-eighths of the city of Constantinople. This shows that "crusading paid;" increasingly the mercenary motive predominated. Vast orders grew up, partly religious and partly secular in their objectives. Their members were part Knight and part Baron, building their power out of ownership of land, using trade and strategic location to foster allegiance to their persons, gathering artisans about them like steel clings to strong magnets. Vast wealth flowed into the coffers of these Orders—Templars, Hospitalers (Maltese) and Teutonic—wealth used in vast amounts to build monuments to the Church and to their Orders.

Monasteries and cathedrals each fostered in their own ways not only construction itself, but all the arts related thereto. Pro-

\*"Explorations in Turkistan, 1904 Expedition," by Raphael Pumpelly, Carnegie Institute, Vol. I, No. 73, p. 38.

\*\*The Israelites' return to the Promised Land.



tection was a paramount concern in those unsettled days and artisans bartered their talents for the protection and patronage of the church. The monasteries were workshops in large degree. Their chronicles abound in accounts of construction enterprises. Not captive slave labor built the cathedrals and universities and monasteries of medieval Europe, but volunteers who worked with the spur of religious or craft motives, or for the protection which the church afforded. Serfs there were in those medieval days, but these were for the most part occupied on the land, not in the arts or crafts.

One accustomed to think of the Middle Ages as the Dark Centuries is amazed by the variety and development of the colonies of craftsmen collected around these churches and monasteries. As secular barons arose, a landed aristocracy seeking all the outward vestments of power and prestige, they turned to these colonies of craftsmen and added their wealth, their desires, their patronage to that of the church, and added also to the growing profits realized by the craftsmen's own work. Some of the feudal castles are wonders of construction, and their furnishings and enrichment are prized even unto this day of modern wonders and skill. Innumerable construction projects were initiated that took generations of craftsmen to complete, men bound together through the ages by consciousness of a common purpose and a common trade. Men in those days felt their common bonds; today they feel their specialty-engendered individuality. Each labored in those days for exquisite skill, for rich effects produced by endless loving toil. Native or imported materials all lent themselves to these patient builders' hands. No wonder they could produce great structures which were tragic losses when they suffered like the crowning glories of ancient Greece and Rome at the hand of vandal invaders.

The Crusades of the middle ages brought the civilization of the East and West into contact, but it was the Saracens, with whom religion and trade went frankly hand in hand, who left the Oriental imprint clearly upon western construction. Their influence was felt in all parts of Europe and the Arabian tongue became universal from Spain to India.

To the Saracens belongs the credit for the beginnings of our modern experimental and applied sciences. Saracen science grew up around the needs for construction. To the Saracens also belongs the credit of bringing the Suez Canal into use.

The Orient with its mystic skylines, its minarets and domes, latticed windows and harem walls, tells a story of civilization built upon other customs and ideals than those revealed by New York's financial skyscrapers or Pittsburgh's flaming furnaces. Our construction vocabulary is full of words of Eastern origin; for instance, the word "bungalow" is of Hindu origin. The Great Wall of China is still a barrier to civilization.

After the fall of the Roman Empire building activities of all kinds suffered a serious lapse because of the infiltration of barbarian hordes from the North. Yet, while they destroyed, these barbarians could not quite escape the impulse to build. They razed many of the Roman architectural triumphs, but the very stones of these ruins lured the peoples who followed the early barbarians to try their hands at construction, and so, to hasten their own civilization and to preserve something of the ancient arts. Commerce and wars and the influence of captive artisans from more advanced countries in the East all served to increase the conditions which made men need construction and taught them how to build.

### Construction Today.

Speaking of applied science and transportation brings us to our modern era of skyscrapers that house the population of a city larger than many a nation of ancient days; an area of factories that covers many miles of territory, of great ocean greyhounds, of cranes that can lift a locomotive like you or I would lift a brick, of seven million autos traveling our highways on a single day.

And what condition do we find in this industry today?

1. The construction industry today is practically at a standstill throughout the country, if measured against the need for construction. Last year there were one million marriages, but only 70,000 new homes built. Today there are 125 families for each 100 homes, and no relief in sight. Two and one-half million new homes will be needed in the next five years.

2. Traffic has increased twice as fast as railroad trackage. There was less construction on American railroads in 1919 than in any year since 1849 (the Civil war years excepted). This lack of construction cannot be offset even by reported one-million-dollar-a-day savings due to increased efficiency in routing of cars.

3. The United States suffered in 1919 a fire loss amounting to \$269,000,000, and the sacrifice of 25,000 lives. There is no visible

way in which this fire loss can be replaced within a reasonable time; and year by year little is being done to diminish that loss.

4. Since the armistice our ship building has diminished to almost negligible proportions, while starving nations clamor for American food products and our own rural people drift to cities and become consumers instead of producers of food.

5. Contemplated construction today is equal to less than one-half of what is needed; of contemplated construction only one-half is actually awarded in contracts, and still worse, only one-half of the awarded contracts actually are under way.

6. This country has unlimited resources of raw materials of all kinds, but every materials industry is beset with difficulties and disruption. Yet each of these industries is facing demands never before known, which demands would be doubled and trebled if we were doing the amount of construction that is really needed.

7. All our industries are dependent upon transportation, yet transportation facilities are steadily declining because of lack of construction.

8. Real estate values are at a standstill and labor costs disproportionate.

9. Both capital and labor are confronted with the problem of graft and profiteering and false leadership within their ranks.

10. Labor troubles are more frequent in construction and in the industries it depends upon than in any other industry.

11. The difficulty of getting funds for construction is in part a matter of legal restriction imposed on banks in regard to construction loans and in part the result of a long period of public skepticism regarding the construction industry.

12. The most significant condition throughout practically all phases of the construction industry is the monumental lack of information on which to base either laws, action, financial policies or public opinion.

### What Shall We Do About It?

Now I come to the pith of my whole talk. The brick industry is not only one of the oldest connected with construction, but it is one of those great fundamental material industries upon which construction must always depend. The brick industry cannot flourish unless construction flourishes. What the construction industry needs most today one can name on the fingers of one hand.

1. Public confidence based on adequate information.
2. Right leadership in construction operations, in material industries and in labor organization.
3. Immediate recognition and support by those who control our national and local financial policies.
4. Legislation which will wipe out all outlived or unjust restrictions on Construction loans.
5. New heart, new courage, practical ideals and a band of men putting their best efforts into making construction and all related to construction four-square to the world, with one keynote—"WE GAIN NOTHING UNLESS WE SERVE."

### What Brickmakers Can Do.

The Common Brick Manufacturing Association, the National Brick Manufacturers Association, and all brick men, I believe, stand for business ideals which American industry today is sadly in need of seeing practiced.

As individuals your membership can—and I earnestly urge that you do—make every item of your advertising, every occasion of your contact with customers or fellow brick men count as an opportunity to register your faith in the construction industry as a whole, in its service to humanity, your recognition of its difficulties and trials and your steadfast intention to stand back of the honest buyer, the honest contractor, the honest dealer and the honest laborer to the end which all of these surely desire—namely, to remove the present stigma from construction so that the industry may render the public that service it is capable of rendering.

No industry can develop practical ideals unless it build those ideals in proportion to the ideals of the larger industrial whole of which it is a part. Brick men stand responsible in considerable measure for the ideals of the Construction industry of the future. Ideals of the brick industry, if they are practiced, cannot fail to stimulate the growth of practical idealism in all the industries related to construction. Your advertising is a potent weapon of education, both for your own membership and for the public, if it is rightfully and skillfully used. My plea is that while you advertise brick and the use of brick, you make a point of continually advertising brickmen's ideals and of showing how those ideals function in the conduct of your business. At the same time will you not make a point of showing how clearly you recognize the need for a new era in the construction industry as a whole,



and your insistence on the five things which that industry so greatly needs today.

The hasty sketch of the history of construction which I have given you is full of inspiration and gives us reason for patience because it gives us a broader understanding of what the construction industry means to civilization. If you, who spend your lives in making bricks, can at the same time see that you are making civilization and that you are making or marring men, you have caught the most fundamental pulse of human achievement. (Applause.)

Secretary Stoddard: Mr. Hammond arose after Mr. Beal's address to tell you who he was and the important position he occupies, and I arise to tell you about Miss Weeks. Miss Weeks is in charge of the statistical department of the construction firm of Hoggson Brothers, of New York. They specialize in bank construction. If you were to go into Miss Weeks' office in this city, you would find on the wall a map of the United States, and in that map is inserted a pin locating the plant of every member of the Common Brick Manufacturers' Association, and when they get a contract in any part of the country they know where they can get their common brick. I hear from Miss Weeks quite frequently. I am more than glad to have Miss Weeks with us today. She has hit the keynote of our industry, the whole industry, not only individuals, and I congratulate her upon her talk.

Vice-President Bryan: Some one has offered a resolution which he thinks will just fit the case referred to in Mr. Beal's talk.

Mr. Hammond: I am sure we all acquired information from Mr. Beal's talk, and I am sure nothing struck us more than his protest against that bank that advised against lending money for building purposes until building materials had come down in price, and suggested that a resolution be written. That resolution has been written and I offer it. Mr. Beal will read it.

Mr. Beal: If Mr. Hammond had his glasses here, he would not turn this over to me.

Whereas, it has come to the attention of the National Brick Manufacturers' Association, and the Common Brick Manufacturers' Association, that a great lending institution has advised that they will not invest their funds in helping to solve the housing problem until the prices of building materials come down, presumably, to pre-war levels, be it

Resolved, That it is the sense and opinion of this joint convention that the secretaries record our protest against such a policy, and, be it further

Resolved, that the New York Legislature be memorialized in protest against refusing to empower the Lockwood Investigating Committee to include in its investigation of the cause of the building, and especially the housing shortage, the right to investigate the causes for the high prices of building loans. Be it further

Resolved, That this resolution be spread upon our respective minutes and given to the daily press.

Mr. Hammond: I move the adoption of this resolution. Seconded and carried.

Vice-President Bryan: The next is a paper by Mr. George W. Small, "A 250 Per Cent Return on Advertising."

Secretary Stoddard: We have rather turned things about and told who the speakers were after they were through, but in this case I want to tell you Mr. Small, represents that journal which comes to the homes of all of you, the Literary Digest. The magazine which we used in our campaign, and which we hope to use again. He has a story of an advertising campaign of their own publication which impressed me so much that I asked him to come here and tell it to you.

#### "A 250 PER CENT RETURN ON ADVERTISING."

George W. Small, New York City.

Mr. Chairman, ladies and gentlemen:

As I came up here I heard some one say, "I wonder what he carries that cane for, and there is a little homely story about this cane which is very interesting. A short time ago we had a letter from the Idaho State Penitentiary; it read as follows:

Gentlemen: I am an inmate of the Idaho State Penitentiary, and during my spare time I manufacture canes, the proceeds of the sale of these canes I am allowed to keep for the purchase of tobacco and such things as I desire. During the past six weeks, I have been engaged in making a cane which I am sending to you. It is made from the copies of the Literary Digest. The price of the cane is whatever you think it is worth."

So you see the Literary Digest is so well known, it even gets behind the prison bars. Mr. Stoddard said he thought the story of our advertising campaign to increase the circulation of the Literary Digest would be interesting. There were certain preliminaries in the way of building up our business which made the Literary Digest one of the leading publications in our field, not only in this country, but the world.

I think as I talk, many of you will say, "this story about a publication is different, it really is not a product." On the contrary, our problems are practically the same as yours; we have to find a market for our product, and you have to do the same. The fundamentals are the same.

(Mr. Small talked at much length illustrating his remarks with charts and curves of the Literary Digest from a small beginning to its present commanding position



John W. Sibley, Birmingham, Ala., Treasurer, N. B. M. A.

among the Nation's literary magazines, due in a large extent to their liberal use of printer's ink, thus proving that it pays to advertise.)

Vice-President Bryan: This closes our program for the day, and the N. B. M. A., will again take up their work.

#### CONCLUSION OF FIRST SESSION OF THE N. B. M. A.

President Hammond: What is the first, Mr. Secretary?

Secretary Randall: Before the lights are turned on, we have a slide or two I would like to have the operator throw on the screen. This, as you nearly all will recognize, is a picture of R. G. Eisenhart, one of our most loyal members, who passed away last October. I think we have never had a more loyal, ardent supporter of the N. B. M. A. than R. G. Eisenhart. I would suggest, Mr. President, that in respect to his memory, we stand for a moment. (The large audience rose instantly and remained standing for one minute.)

Secretary Randall: It is our misfortune that our treasurer, John W. Sibley, of Birmingham, came down with appendicitis nearly two weeks ago, and is still in the hospital. He has sent his report, and is represented by his daughter, and I thought we would all like to look at his smiling countenance, though only on the screen. (Applause.)



Secretary Randall: If it is the pleasure of the convention I will read Mr. Sibley's report.

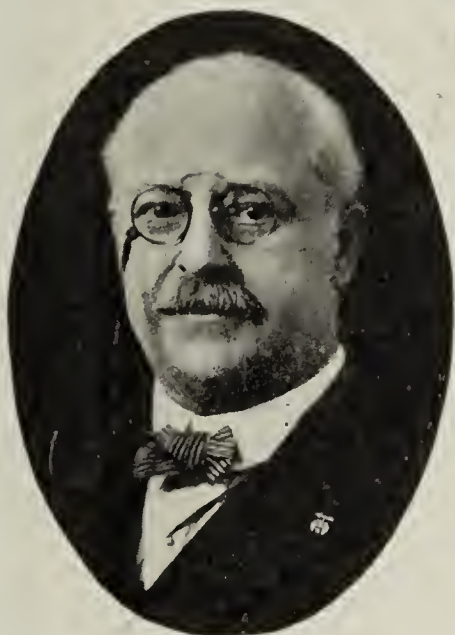
President Hammond: I would first like to read a letter which Treasurer Sibley, in his thoughtfulness, sent to me.

Birmingham, Ala., January 29, 1921.

Mr. W. K. Hammond, Pres. N. B. M. A.

My dear Mr. Hammond: Permit me to extend my most cordial congratulations and best wishes to yourself and President Schlake for the joint convention that is now in session.

May this evidence of splendid co-operation fructify to a unity of purpose for the uplift of the industry in general. There is a great field of usefulness for both Associations. The parent organization with its salient tradition and imperishable record of past achievements should continue along the lines of education, research and good fellowship, and the vigorous young association should continue its aggressive policy for the practical commercial betterment of the common brick industry and co-ordinate all of the fine elements that have been latent for so long, and combine them into a superb effort to put the common brick industry back in the position of supremacy justified by its ancient and honorable history.



Theo. A. Randall, Indianapolis, Secretary, N. B. M. A.

I regret exceedingly that physical disabilities prevent my being personally present at this convention, but I wish for same the highest measure of success and enjoyment.

Cordially yours,

J. W. S.:R

JNO. W. SIBLEY.

Secretary Randall: Treasurer Sibley's report contains a good suggestion and also one of his characteristic negro stories which have made his reports so enjoyable in the past.

#### TREASURER SIBLEY'S REPORT.

Birmingham, Ala., January 28, 1921.

To the Officers and Members of the National Brick Manufacturers' Association:

Gentlemen:

It becomes my pleasure again to submit you the report of the receipts and disbursements for the year just ended. I regret exceedingly that a recent operation for appendicitis prevents my doing so in person. I am glad to say that I am recuperating rapidly.

Of course, deflation of credit which deflated industry has had its effect on the finances of the Association causing the expenses to make considerable inroad upon our famous surplus.

When I think of the attitude of the Federal Reserve Board toward the financial situation, I am reminded of the experience of the old colored philosopher Hambone who had been kicked by a mule. He was walking on the street all bandaged up and with his arm in a sling when he met a friend of his, who said to him, "Look heah, Hambone, de doctor tell me when dat mule kick you dat you loss your conscience." "Yes," said Hambone, "and judging from de size of de doctor's bill, I think dat same mule musta kicked him, too."

However, I have always been an optimist, and I believe that the future has brighter prospects in store for the industry and our Association.

In this connection, I feel impelled to suggest that the tradition and record of this Association warrant a most cordial support, and I trust the Executive Committee will take steps to raise the dues sufficiently to provide funds that will enable the Association to function to the greatest degree of efficiency. The older members realize what this Association has meant to them, and will not object to an increase, and the new members will really appreciate its value more when they realize that it is not a "cheap" affair.

It is with keen regret that I cannot be with you, but I am sending my daughter to represent me. May the convention be the best ever. With warmest regards to each and every one of you.

Yours very truly,

J. W. SIBLEY,  
Treasurer.

#### RECEIPTS AND DISBURSEMENTS.

Account Thirty-Fourth Annual Convention of the National Brick Manufacturers' Association, 1920.

##### RECEIPTS.

|                                     |                   |
|-------------------------------------|-------------------|
| Balance on hand, 1919 .....         | \$ 496.51         |
| Renewal fees, account 1920 .....    | \$1,720.00        |
| New memberships, account 1920 ..... | 520.00            |
| Books, etc. ....                    | 9.00              |
| Total income .....                  | \$2,249.00        |
|                                     | <u>\$2,745.51</u> |

##### DISBURSEMENTS.

|                                                                  |            |
|------------------------------------------------------------------|------------|
| Paid for convention program, mailing, per voucher\$              | 215.00     |
| Paid for convention report, mailing, etc. ....                   | 426.75     |
| Paid for membership American Society for Testing Materials ..... | 15.00      |
| Paid for Chamber of Commerce, membership ...                     | 15.00      |
| Paid for pamphlet "Americanization" mailing...                   | 47.55      |
| Paid for posters .....                                           | 23.75      |
| Paid for lantern slides .....                                    | 46.00      |
| Paid for miscellaneous printing .....                            | 176.37     |
| Paid for postage, telegrams, expressage .....                    | 130.64     |
| Paid for incidental expenses .....                               | 47.25      |
| Paid for clerk hire .....                                        | 300.00     |
| Paid for secretary's annual allowance .....                      | 600.00     |
| Paid for assistant secretary's allowance .....                   | 200.00     |
| Paid for traveling expenses, secretary.....                      | 250.00     |
| Total disbursements .....                                        | \$2,494.31 |
| Balance in treasury .....                                        | \$ 252.20  |

##### RECAPITULATION

|                                                |            |
|------------------------------------------------|------------|
| Balance in treasury, account 1919 .....        | \$ 496.51  |
| Total receipts, 1920 .....                     | \$2,249.00 |
| Total disbursements, 1920 .....                | 2,493.31   |
| Excess disbursements, 1920, over receipts..... | 244.31     |
| Balance in treasury, 1920.....                 | \$ 252.20  |

Secretary Randall: This report reminds me of what a man said to me the other day on this business proposition. He said "Business ain't as it was, and it ain't going to be as it is."

C. P. Mayer: I move the report be accepted and we express to Mr. Sibley our regret on his enforced absence and good wishes for his speedy recovery.

Seconded and carried.



Secretary Randall: The next is the report of the Committee on Technical Investigation. Mr. Bleininger, who is chairman of the committee, is not able to be with us, but he has sent his report, which I will read for him, Mr. President.

#### REPORT OF COMMITTEE ON TECHNICAL INVESTIGATION.

To the Officers and Members of the National Brick Manufacturers' Association:

Gentlemen:

The committee on technical investigations is unable to make a report on account of the fact that no work was done during the past year owing to lack of funds. This condition, though disappointing, is not an unusual one, for many a society has experienced a similar lull in activities during the past year. It is certain that we must not be discouraged but rather make plans for resuming activities in some fashion, for where there is a will there is a way. An organization like the American Brick Manufacturers' Association which has to its credit work such as the classic investigations of Orton must not allow its activities along technical lines to lag.

Allow me to suggest that this matter be discussed and plans outlined for the resumption of work. Even though no considerable funds are nor will be available there is so much useful information to be had from our own members that most interesting compilation of facts could be had through co-operation.

There might be suggested the collection of a series of burning curves taken on different types and sizes of kilns and for different products. Many of our people have pyrometer equipments and could supply such information based on the instrument readings and cones without much trouble. By accompanying the time-temperature readings with information concerning the size of the kiln, number of bricks burned, and quantity of coal consumed, very interesting information could be obtained, furnishing an ample topic for discussion and the drawing of definite conclusions of benefit to all.

This work could be gotten under way by working out a set of instructions and questions to be answered so that the information could be condensed on one or two sheets.

Allow me to suggest that this subject be discussed and the names of members secured who would be willing to participate in getting together this information. The instruction sheets could then be prepared and the work started without delay.

There are a number of other problems which might also be of general interest, though I take it that the one relating to the burning would appeal to most of the membership.

Wishing that you may have a successful convention I am,  
Yours very truly,

A. V. BLEININGER,  
Chairman.

President Hammond: Gentlemen, what is your pleasure as to this report?

George H. Clippert, Detroit: I move we express to Professor Bleininger, our regret at his absence, and our thanks for this report, and that the suggestions he makes relative to work the coming year be left with the Secretary, to be taken care of.

W. E. Dunwody: I second the motion.  
Carried.

#### ELECTION OF OFFICERS.

President Hammond: This brings us to the election of Officers.

Fritz Salmen, Slidell: The man whom I have in mind to nominate for President of this association does business down in my section of the country. He comes from that section formerly known as below the Mason and Dixon line. He is a Southern man, but as this association does not recognize any boundary, or any line, and I know the man who has now risen to the office of first vice-president is a very able man, a man who stands high in the profession in the section of the country in which he lives, and not only that, but he has a national reputation, and we all look up to him with a great deal of respect, I take pleasure in nominating William E. Dunwody as our next president.

George Clippert: I take great pleasure in seconding his nomination because he is from the South.

Secretary Randall: I have a letter from one of our loyal members from the South who is not able to be present very often because of lameness, but he always keeps tab on all association affairs through our reports and knows exactly



Dr. Albert V. Bleininger, Newell, W. Va., Chairman  
Committee on Technical Investigation.

what we are doing. His letter is practically a second of Mr. Dunwody's nomination.

Milledgeville, Ga., Jan. 27, 1921.

Friend Randall: I am sending my youngest son to take my place at the convention. I hope that it may be a grand success.

If I were at the meeting it would give me great pleasure to tell the brethren about Will Dunwody, president of the Brick Manufacturers' Association of Georgia.

In his home state, Will is a sure enough wheel horse. Works willingly anywhere he is put. When a big modern hotel was needed in Macon, Will took off his coat and gathered in subscriptions. The same when the Y. M. C. A. needed money. The same in war work. To insure the success of the State of Georgia Fair, Will was put at the head. Of course it was a grand success. For years each brick manufacturer of Georgia paddled his own canoe. And it was slow sailing. Will took off his coat and did missionary work among the brethren. Now we have one of the best state associations in America.



Will is like an old Presbyterian missionary whose brethren tried to persuade him from going to a cannibal island. He said it was his duty, and that he was specially fitted for the position.

He was landed on the island in the dark. In the morning he was discovered by the chief and some head men, who came running brandishing their knives. The missionary very coolly made signs not to kill him, that he wouldn't taste good. To prove it, he sat down and whetted his knife on his shoe sole, and pulled up his trousers and cut a piece out of his leg, and handed it to the chief, who chewed it, and handed it around to the others. It was spat out. The chief shook hands with the missionary and took him to his house. The missionary had a cork leg.

I don't think that Will has a cork leg. But if it was absolutely necessary to have one to make a success of an undertaking, Will, rather than fail, would soon get one.

With many kind wishes I am yours truly,

J. W. McMILLAN.

Charles H. Bryan: I move the nominations be closed and the Secretary cast the unanimous vote of the convention for Mr. Dunwody for President.

John P. Cahoon: I second the motion.

Carried.

President Hammond: The Secretary has cast the ballot and I declare Mr. Dunwody elected your President. The next gentlemen is nomination for First Vice-President.

Charles H. Bryan: Eulogy is not necessary to advance the next man in line. Everyone knows "Wilson, that's all." (Laughter.)

John T. Hummert, Quincy, Ill.: I second the nomination, and move the Secretary cast the unanimous ballot for Mr. Wilson.

Carried.

President Hammond: "Wilson, that's all." Mr. Wilson has been elected as First Vice-President. We will now have nominations for Second Vice-President.

P. A. Smith, New Brighton, Pa.: I nominate Mr. R. C. Burton, of Zanesville, Ohio, for Second Vice-President.

George H. Clippert: I second the motion, and move the Secretary cast the ballot for Mr. Burton for Second Vice-President.

William Conway: Second the motion.

Carried.

President Hammond: The Secretary has cast the ballot, and I declare Mr. R. C. Burton your Second Vice-President. Nominations for Third Vice-President are in order, and I will ask Mr. Dunwody to take the chair for a moment.

Vice-President Dunwody: Nominations are in order, gentlemen.

President Hammond, from the floor: Mr. Chairman, it occurred to me, and I have spoken to one or two about the gentleman whom I want to nominate for Third Vice-President, and they have all said, "Of course." I wonder how many of you gentlemen have ever read, "John Halifax, Gentleman." It is a book which I as a boy read and admired, and hoped if I lived long enough and had help enough to develop a character like John Halifax, Gentleman. We have a member of the N. B. M. A. who has for years and years been my idea of John Halifax, Gentleman. I have the honor to nominate Jotham Post, of East Williston, Long Island, for Third Vice-President of this association. (Applause.)

George H. Clippert: Mr. Chairman, it has been proven here today without a doubt that we have to come to New York for big men, after the splendid manner in which this meeting was opened by our president, who is just leaving the chair, and I take the greatest pleasure in seconding the nomination of another New York man, Mr. Jotham Post.

F. R. Carter, Peoria, Ill.: I move the nominations be closed and the secretary cast the ballot for Mr. Post.

Mr. Burton: I second the motion.

Carried.

President Hammond: The secretary has cast the ballot and Mr. Post has been elected third vice-president. I would ask Mr. Clippert to escort our newly elected President, Mr. Dunwody, to the platform. I will ask Mr. Post to escort Mr. Wilson, and if I may be permitted, I will escort them both. Mr. Mayer, will you please bring Mr. Burton up here.

Secretary Randall: We are trying to make it "snappy," and have the election and installation all at the same time.

President Hammond: I am going a little bit too fast. Nominations are now in order for Treasurer.

Warren Griffiss, Baltimore: I move Mr. John W. Sibley be unanimously elected Treasurer of this Association for life, and that he live forever.

C. P. Mayer: I second the motion.

President Hammond: The motion is carried. The Secretary has cast the ballot. Now what will you do about the Secretary.

Charles H. Bryan: Same motion as for Mr. Randall.

W. H. H. Rogers, Albany, N. Y.: I want to have the pleasure of nominating a gentleman who held that office when I first joined the Association in Philadelphia, thirty-two years ago, and I thought so well of the Association at that time, and so well of it since that time, that I have remained a member ever since, five years after being out of active work in the clay industry. I assure you that the good opinion I formed of the gentleman in question at that time, has caused me to continue my membership, and I take pleasure in presenting the name of Theodore A. Randall, who has been a bulwark of strength to this Association, and kept it going more than any other one man for thirty-five years. (Applause.)

Mr. Bryan: I second the nomination, and move the Assistant Secretary cast the ballot for Mr. Randall for Secretary for life.

Mr. Post: Second the motion.

Mr. Hammond: Carried, and the Assistant Secretary has cast the ballot for Mr. Randall for Secretary. What is next, Mr. Randall.

Secretary Randall: We have one member to elect on our Committee on Technical Investigation. The Committee now consists of Professor Bleininger, Prof. Orton, W. D. Richardson, Warren Griffiss and Marion Blair. Prof. Bleininger's term expires this year, and I judge there is no question at all but that we want to re-elect Professor Bleininger to succeed himself, because there is no other man in this country, or any other, better qualified for this position.

C. H. Bryan: I move Mr. Bleininger be re-elected to succeed himself on this Committee on Technical Investigation, and that the Secretary cast the unanimous ballot of this convention for him.

Mr. Wilcox: I second the motion.

Carried.

President Hammond: This ends the election, I believe, and we will now be glad to hear from our newly elected President, Mr. W. E. Dunwody, of Georgia. (Applause.)

#### Installation of Officers.

President-elect W. E. Dunwody: Mr. President, ladies and gentlemen, I am deeply grateful for the honor. The hour is late, and I agree with Mr. Bryan to make this snappy. I assure you I will give you the very best there is in me, my heartiest co-operation, and I feel we all want to congratulate ourselves on the splendid start we have made, the fine papers that have been read today. They should be an inspiration to all of us. Again, I thank you.



President Hammond: We will now hear from Mr. Thomas Wilson, our First Vice-President.

First Vice-President Wilson: Mr. President, ladies and gentlemen, I want to thank you most heartily for the honor which you have conferred upon me, but I don't know whether a vice-president should be permitted, or expected to try to make a speech. You know the office of vice-president has never meant very much at any time or anywhere in this country. And in speaking of vice-presidents, I am reminded of a story of two boys who found a dime and decided to form a company. First, an election was held and one was elected President and the other Vice-President. Then they decided to invest their wealth in a cigar, and after purchasing same, hastened to a nearby woods and seated themselves upon a log. Naturally, the President lighted the cigar and began to draw his salary, and as the other member of the firm saw the liquid assets of the company going up in smoke, he began demanding his rights as a member of the firm, and especially as Vice-President, whereupon the President undertook to explain the duties of their respective offices. He said, as President of our Company, it is my duty, in order that our venture may prove a success, to smoke this cigar as long as it will last, and all you have to do, as Vice-President, is to sit there and spit.

Still that explanation doesn't satisfy me as to my duties, and the more I think about them the more I am puzzled. I think I am about as much confused as a certain Frenchman who undertook to master the English language. He said he soon learned that when he was quick he was fast; and when he was tied he was fast; and when he went out in the evening to spend some money and have a good time, he was fast. Of course, he was discouraged, but still he persevered and would have continued to do so, but he struck upon the sentence which reads, "The first shall be last and the last shall be first," and then he gave it up. However, I don't think we ever need to spend very much time in trying to find out just what our duties are, for the essential thing is to get busy and do something that will prove beneficial not only to ourselves, but to others. I am very much opposed to idleness, and opposed to the idea of getting something for nothing, yet how many there are in this country who seem to think that the world owes them a living whether they do anything for it or not. In fact, the world doesn't owe them anything except a chance to give something for what they receive. The trouble is we have too many people in this country like they have down in the state of Georgia from whence hails our newly elected and worthy president. I am giving my information first hand. A few weeks ago a delegation of 150 prominent citizens, headed by the governor, came from that leading Southern state to Pittsburgh to obtain knowledge and inspiration by visiting our Carnegie School of Technology, the Mellon Institute of Research and our great steel mills, and other noted industries. After this delegation had been chaperoned all day by a committee of our most prominent business men and citizens, they returned in the evening to the auditorium of the Chamber of Commerce Building, where a great number of very interesting and very entertaining addresses were delivered. According to expectation every native or adopted son of Georgia had a wonderful time in Pittsburgh, and said so, but he never failed to relate also the marvelous opportunities and advantages of a home "away down South in Dixie."

One speaker in particular whose address I liked very much because I think he stated very frankly the chief cause of our many troubles at the present time.

This speaker stated that his state was one of the greatest in the Union—much greater in area than that of the State of Pennsylvania or the state of New York—with soil unexcelled in fertility and minerals unsurpassed in variety and richness. But, said he, "We need capital and more especially enterprising people to develop our wonderful natural resources. So a few months ago a convention was called in one of the principal counties of the state for the purpose of devising ways and means of bringing in more people, or in other words, of increasing the population. During the convention one method or one plan after another was suggested,

but none seemed entirely satisfactory. Finally, just before the meeting adjourned the chairman recognized a colored man in the rear part of the audience and said, "Johnson, you are a thrifty farmer, suppose you give us your opinion." Johnson arose and said, "Mistah Chairman, us cull'd folks done heah 'bout dis here meetin' las' week, and we done call a meetin' ob our own day foh yesterday, and aftah goin' over the groun' careful, we done fine de's 'bout minny white folks in dis heah county as dar am cull'd folks, and we can't see our way clear to dis heah increasin' de popalashun, cos we done calkulate de's 'bout as many white folks heah now as we done can supput."

So it does seem that there are some white folks down in Georgia that will soon have to go to work. But Georgia is not the only state in which we can find people who do not want to work, but who want to be supported by labor of others. Again, there are many who pretend to work, but who do just as little as possible, no matter how great the wages are which they receive. The result is that we are suffering not from overproduction, but underproduction, in all lines of industry.

The way to overcome business depression and bring down still further the high cost of living is not so much by lowering wages as by increasing the efficiency of labor. We have more money in our country than ever before; we have been blessed with abundant crops; we have large quantities of raw materials; there is needed in this country right now more than five million new houses. Labor is plentiful and there is



Rufus C. Burton, Zanesville, Ohio, Second Vice-President, N. B. M. A.

no reason why we should not soon enter upon an era of great prosperity.

Another great trouble with our people is that they no longer know the meaning of the word economy. The truth is that all of us have been spending money the past two years like drunken sailors, and our government has set the example. Thank fortune, however, there will soon be a change in our governmental affairs. We will return once more to correct business methods—wages for labor will be properly adjusted, capital will flow again through legitimate channels, and contentment and prosperity will reign throughout the land.

Surely as a nation, we have great reason to be proud of our position in the world today. We have food supplies and raw materials not only for ourselves in abundance, but sufficient to feed and to put to work the hungry and unemployed of all Europe. Our war debt, great as it is, is only 4½ percent. of our national wealth, and it is about time for us to stop talking depression and preach prosperity. Go to work, as individuals, and as the foremost nation of the world, put our own house in order and see that it is well ministered, always bearing in mind the well known maxim, "Give to the world the best you have and the best will come back to you." (Applause.)



President Hammond: Ladies and gentlemen, Mr. Burton, your second Vice-President.

Vice-President R. C. Burton: Mr. President, ladies and gentlemen, I guess it is permissible for all of us to describe our feelings by telling a story, and I am a little bit like the young fellow, who, when he came back from his wife's funeral, one of the neighbors said to him, "I saw you rode with your mother-in-law," and the young man said, "Yes, and that took every bit of pleasure out of the ride." So to contemplate talking starts a perspiration out on me, and a cold one, too. I don't like to talk, and I don't see how I am going to get much farther along in the organization, for I have not the eloquent qualities of our retiring president, and if you are anticipating it, it leaves me in an embarrassing position. Nevertheless, it is rather a happy day for me, for today I am celebrating my birthday (applause). I started in the brick business fifty years ago, and there is no other business I would rather be in. I started to leave home very early in life, and my mother would not let me leave until I had learned the cooper's trade. My father would not let me leave home until I was fourteen years old. Just as soon as I learned the cooper's trade I left home, and I never worked at the cooper's trade a day, or a moment. I was like the man who worked in the ditch and saved up his money and started a saloon, and then he got ashamed of that and sold it and started a grocery and became rich and prosperous,



Jotham Post, East Williston, L. I., N. Y., Third Vice-President, N. B. M. A.

and he never liked to have any of his old cronies come up and say, "Oh, Pat, I remember the day when I worked with you in the ditch." His wife did not like it either, and did not like to have the women come in and tell her about the old days when they took in washing. It came Pat's time to die, and among the beautiful floral offerings that came to the house was an anchor. There was the gates ajar, and the wheel with the broken spoke, and the harp. The time came for the widow to take her last look, and she went round the room looking at the flowers, and at last she came to the anchor, and she said, "Who in the devil brought that pick in here?" I feel the same way when I see a barrel.

I never worked at the cooper trade a day or a minute, and the first job I got was in the brick business, and I have been there ever since, and I like it. I have listened to all of these discouraging talks—now there is no Irish in me, but I like the Irish people for the cheerful way they have in going at their troubles. A long time ago I heard an Irishman singing. He said the Irish had their troubles, but they had their poet, and they loved him well. I am sure he was a true born Irishman, and his name was Moore. He sang about the Irish, and many, many Irish hearts still cherish

his songs. One song in particular, I cannot recall it all now, but it is about building castles in the air. Now, we have been talking about castles and building all the time, and we have sort of had our mouths down about the brick business.

I think better times are coming soon, and all that we have to do is to stick to our business. Our good president has been having his troubles. Four years ago I was telling you about the troubles with roads. The government was telling the railroads how much they should charge for freight rates, telling them to get together and make a profit. In Ohio, we have a law that if two brickmakers get together and talk—every time they catch us talking together, they can send us to jail for a year and fine us a thousand dollars. We try to sell brick to the various corporations, their purchasing agents ask every other brickmaker to compete against us, but the railroads are compelled by the government to get together and charge living rates. When if government does anything, it ought to compel the brickmakers to get together and furnish a schedule of what it costs to make brick, and then sell them at a price to make a profit.

I have always greatly admired C. P. Huntington. He got a lot of railroads together and made a transcontinental system. He took a lot of lines that were not making money, and he combined them into a big system, and pretty soon he began to pay dividends. Then some of these other men wanted to investigate as to how he did it and how he made his money. These fellows who investigate never work. They did get C. P. Huntington before the Supreme Court, or the District Court of the United States. They said, Mr. Huntington, you did so and so with the Southern Pacific and the Union Pacific roads. Where are the books and the records? He said, "I burned them up because they belonged to me, and it is nobody's business but mine." That was his answer, and I think nine-tenths of the investigations that come up would be stopped if men had faith enough in themselves to get up and demand their rights as American citizens not to be investigated by every measly little thing that comes up. We would all be a lot better off. The good governor of the State of Ohio went all over the state using my name and the name of Governor Cox about a piece of fourteen miles of road I built in Ohio. Three times that road had gone to a letting and no bidders. I stepped in and bid on that road. Along comes the government officials and wanted the road built quicker than contemplated. I had from February 28 to December 15, to build that road. It took 5,000,000 paving brick. The government came along and said we want that road built by the first of July. There was only one way to do it at the price we had bid it in for. They took the contract out of my hands, with my permission, and I did the work. I gave my time to the state, and that work was completed by October. The state would not let me pay more than 35 cents an hour for labor, when the government was paying men \$7.10 a day, taking them off my work. There were 40,000 trucks in the West to go East, and that was the only road to take them over. Now in completing that road, it overran the cost that I took it for. Then the governor of our state went around, and to make capital out of it for himself, told the people that I was a grafter because it cost more to build that road than my contract price. I want to tell you, I am out \$3,000 of my own pocket for entertaining state officials and others, and I have had to pay the contractors. I have been working for the State of Ohio, for the State Board of Trustees, for twenty-one years without any salary, and the governor has appointed me for another four years, and still I am a grafter.

So I think these investigations need not worry a man much. They don't amount to anything, your friends don't believe these things, and your enemies like to hear them. I mention these things now on account of what Mr. Hammond has said here with reference to investigations here in these critical times when everybody is getting down to hard pan. Like Mr. Wilson, here, I think all we have to do is to continue right on in the brick business the same as we have



been going. Time will right these things if we are patient. The capitalist today is waiting. He has the money to build, but he is waiting until things get down to the bottom, then we will find that we cannot make brick fast enough. (Applause.)

President Hammond: Now, gentlemen, it gives me pleasure to introduce our Third Vice-President, Mr. Jotham Post.

Vice-President Jotham Post: Mr. President and gentlemen, I don't know why this was wished on me. I was born out here on Long Island on a level piece of ground, and it makes me uneasy to be put up here on the platform. I don't like it at all. It makes me think of the fellow who went into a restaurant. He saw on the bill of fare, "Pig's feet," so he ordered a portion. It was so good he ordered another portion and ate all of it. He got down by the cashier's desk and he began to feel a little pain, and he stopped, and the cashier said, "What's the matter?" The fellow said, "I don't feel good." She said, "What did you eat?" "Two portions of pig's feet." She said, "Wait a minute," and she dug down in her desk and came up with a little white bottle and she gave him a dose, and he began to feel better. He said, "What was that you gave me?" She said, "A little dose of Foot Ease." (Laughter.) That is the way I feel. I want some foot ease. I have enjoyed the conventions, and I love to meet here with all of you, but I would rather be down there with the rest of you instead of up here on the platform. It reminds me of the conundrum and I want to ask it and see if any of you can answer me. "How far can a dog run through the woods?" He can run just half way, because then he will be running out." If I get half way through with this vice-president business, then I will be running out. (Laughter.) I don't know whether I can get out.

Mr. Mayer: You are just starting now. You are all right.

Mr. Post: I am just starting, but how will I finish? I am not much of a boss. My boss is sitting over there, and I don't know what she thinks of this. As I get up a little further, I want you fellows to be boss and help me do everything we can to make the convention a success, and the way to make the Association a success is not to get, but to give. (Applause.)

Mr. Hammond: Mr. President and gentlemen, and ladies, too, I want to congratulate these gentlemen on the prospect which is before them, which, I trust, will be a much happier four years for them and the country than the four years just passed. I want to thank the convention for the consideration which you have given me always in the time which I have had the honor to preside. (Applause.)

Secretary Randall: Mr. Bryan requests me to announce that the Directors of the Common Brick Association will meet here in this room at three o'clock.

President Dunwody: Mr. Randall, don't you want to make a few "heart broken" remarks on your election?

Secretary Randall: You all know what is in my heart. I am doing my level best to keep and hold this organization where it is and has been and hope to show progress in the year to come. Old H. C. L. has hit us pretty hard the past year, and it reminds me of the fellow who went into a hat store to buy a hat. He found a panama hat which looked good to him, and he put it on and said, "How much is this hat?" The clerk said, \$30.00. He took it off and looked it over and said, "There are no holes in it." "Holes for what," said the clerk. "For the ear of the man who is ass enough to pay \$30.00 for a hat." (Laughter.) I am sure when we have finished our program at the end of the week you will agree with me that this has been the best convention we have ever had. (Applause.)

H. C. Kley Meyer, Evansville, Ind.: While the story Mr. Randall told was all right, we miss Mr. Randall told was all right, we miss Mr. Sibley and his negro stories.

Mr. Hammond: Perhaps I may be able to fill the gap with a story on the colored man. There was a colored man from

the State of Georgia—everything is laid to Georgia now, and he was relating to some of his friends the things he had seen. Anybody who knows darkies can fancy the things he told. "I want to tell you when I was at that place, the things I seen." One of his listeners said, "Why, man, you done saw pretty near all there is." "You said it, man!" "Say, you ever had delirium tremens?" "What you mean, man, ask me such a question? No, I never had delirium tremens!" "Well, then you don't need to talk no more, 'cause if you ain't never had delirium tremens, you ain't never saw nothing." (Laughter and applause.)

President Dunwody: This closes the program of the day. We have made a splendid beginning, gentlemen. I hope we keep up this record all week. We stand adjourned for the day.

The balance of the Convention Proceedings, including all papers and discussions and the banquet speeches, will be given in full in the Convention Issue of *The Clay-Worker*, out early in March.

### THE SMOKERETTE.

The local entertainment committee, under the leadership of the Master Entertainer, John R. Young, secretary of the Convention Bureau of the New York Merchants' Association, provided a delightful entertainment Wednesday evening, of an informal character. First there was the customary half hour's hobnobbing as the guests assembled; then a series of high-class vaudeville stunts, or, to use the more modern term, a "revue," in which a score of pretty girls sang and danced and made merry, after which the older members again "hobnobbed" and the younger ones tripped the light fantastic to their hearts' content. It was all very enjoyable. Punch and other light refreshments were served, and it was again demonstrated that the Smokerette is an established social function of the N. B. M. A. Because informal, it is participated in and enjoyed by all.

### THE ENTERTAINMENT OF THE VISITING LADIES.

The convention was graced by a larger number of ladies than any convention for several years. The chairman of the Ladies' Entertainment Committee, Alfred Pettit, who served so efficiently at the previous New York meeting, was again on the job and proved the right man in the right place, meeting very cleverly every demand in the way of hospitable courtesy. There was a tour of inspection through the hotel, after which tea and confections were served in the grill room, followed by dancing. While the entertainment was for ladies only, it was noticed that a number of the masculine delegates were participants. A theater party was given Thursday afternoon at the Hippodrome, the greatest show on earth, tickets being given the visiting ladies, with the compliments of the local committee. Each lady was also given a box of candy and many other little courtesies were shown them, and it is safe to say that there will be more women in attendance at future conventions than in the past. This is as it should be.

### AN INTERESTING CONFERENCE AND LUNCHEON.

The Pennsylvanian delegation at the National Convention "threw" a little dinner party Thursday afternoon in the Pennsylvania Hotel. There were some thirty present. Included in the number were most of the officers of the N. B. M. A. and the C. B. M. A. At the close of the luncheon they were each in turn called on for impromptu remarks by Mr. Shimer, who acted as spokesman, after which members of the local organization made individual reports as to the status of the business in their various localities. As a whole the situation was pictured as hopeful. A general resumption of building which means a demand for building brick was predicted. The "Quakers" are not given to long speech but are royal entertainers and the party was a very pleasant affair.



## CONVENTION SIDE LIGHTS AND PERSONAL MENTION.

John P. Cahoon, of Salt Lake City, Utah, makes a good presiding officer. In introducing him Mr. Hammond added a little humor to the occasion by asking if he was a Mormon. This Mr. Cahoon emphatically denied.

H. C. Kleymeyer, of the Standard Brick Co., Evansville, Indiana, attends all the various face brick and common brick conventions as well as N. B. M. A., and while he is a most successful business man and has a large knowledge of the game, he is still constantly seeking for information.

Howard Stafford, of the Georgia Carolina Brick Co., Augusta, Ga., brought his sunny southern smile with him and didn't miss a single session.

William Conway, an ex-president of the N. B. M. A., is one of its most loyal members and has perhaps as many friends in the Association as any other member. He leaves shortly on a pleasure trip to Bermuda and Cuba which will extend over several months. Mrs. Conway will accompany him. Mr. Conway anticipates making an auto trip across the continent in the near future.

C. H. Whitescarver, of Williamson, V. Va., showed some fighting spirit and an extensive amount of humor in his remarks on the tunnel kiln.

William Burgess, of the Don Valley Brick Works, Ltd., Todmorton, Ont., Canada, represented the National Canadian Association. He and Mrs. Burgess seemed to enjoy the week immensely. Mr. and Mrs. F. R. McCannel, of Milton Pressed Brick Co., Milton, Ont., keep pace with them.

The Burton Townsend Co., of Zanesville, Ohio, manufacturers of paving and common brick, was well represented by R. C. Burton and wife, Wm. H. Lucktenberg and wife, and Julius R. Lucktenberg. They also represented the Ohio Paving Brick Association.

Mr. Ray L. Winslow, of New York City, president of the Eastern Paving Brick Manufacturing Association, was presented with a very beautiful solid gold watch convention week in recognition of his valuable services and high esteem in which he is held by his associates. Against his vigorous protest he was re-elected by acclamation at the annual meeting of the Eastern Association.

The American Enamel Brick and Tile Co. had a good delegation headed by that popular representative, Rex Gardner. The delegation consisted of C. O. Gardner and Wm. B. Meyer, Westwood, N. J.; Walter J. Lange, New York City; A. P. Dempster, Brooklyn, N. Y., and J. Francis Booream, treasurer, Greenwich, Conn.

R. C. Purdy, now a consulting Ceramic engineer, with headquarters at Columbus, Ohio, hobnobbed with the delegates and expressed himself as highly pleased with the smokerette and banquet. The sessions were unusually interesting to him.

Miss Weaver represented the Fields Brick Co., Chester, Pa., while Miss Hettie Sibley, daughter of Treasurer John Sibley, represented his company, Birmingham Clay Products Co., Birmingham, Ala.

W. W. Dickinson, Jr., Little Rock, Ark., created quite a little laughter during his convention talk on brick making in Arkansas. The picture man did not throw the pictures on as fast as Dickinson wished with the result that he said several times, "let's have another, please." To cap the climax, he took a glass of water and declared he would have another anyway.

A special meeting of the Connecticut Brick Manufacturers was held in one of the private assembly rooms of the Pennsylvania Hotel, Wednesday afternoon. Eighteen members were present. General business conditions were reviewed. A poll of the stock on hand showed that the total was less than sixty million, with nearly 25 per cent. sold. The total pro-

duction is less than normal. The Connecticut Association has secured the services of C. W. King as secretary, with offices on Pearl street, Hartford, Conn.

Chas. Bloomfield, of Metuchen, N. J., ex-president of N. B. M. A., renewed old acquaintances and attended the various sessions and functions. It was good to see him with us again.

New York State had the largest number of delegates present, there being 101 all told. Pennsylvania and Ohio tied for second place, with 58 each. Illinois had 27 delegates, New Jersey 20, Connecticut 18, Indiana 11, Massachusetts and Virginia 10 each, Maryland 6, Texas, Wisconsin, Tennessee and Alabama 4 each, Georgia 3, Vermont 3, West Virginia 3, North Carolina 3, Iowa, Utah, Colorado, Delaware and Canada had 2 delegates each, while Rhode Island, New Hampshire, Kentucky, Washington, Arkansas, Louisiana, Minnesota, Oklahoma and California had one each.

C. M. Daggett, of the Horace Purinton Co., was the lone Maine delegate. Their plant is located at Waterville.

L. S. Collins, of the Los Angeles Brick Co., Los Angeles, California, and C. P. Oudin, of American Fire Brick Co., Spokane, Wash., traveled the farthest to reach the convention city.

The two Marshalls, Caleb C. and Burton, came from the far western part of Texas to be present. They represented the International Brick Company, of El Paso, Texas.

The two Giffords, O. C. and W. H., represented the Reliance Brick Co., Dallas, Texas.

Chas. Francis, representing the Francis Vitric Brick Co., came from Muskogee, Oklahoma, to attend the Convention.

R. D. Lindsay and Frank C. Ervin represented the Denver Pressed Brick Company, of Denver, Colo.

Wm. Conway, Jr., Joe Byrne, Earl Hillar, Rex Gardner, George Potts, Harrison Clippert, Geo. Keller, H. R. Clark, Warren Griffis, Ross Purdy, W. E. Dunwody and a number of other notables tripped the light fantastic Wednesday night at the smokerette. Everyone enjoyed it immensely.

Charles Bryan, of Detroit, liked to sit over in the N. B. M. A. corner where the registration takes place.

Tom Green was generally to be found in the registration room, near the C. B. M. A. table. He advertised the Tom Green Brick Co., Sioux City, Iowa, by presenting the delegates with a card on which was the clever lines of Billy Sunday: "The man who sings 'Home Sweet Home' in a rented house is only kidding himself and serenading the landlord." Build with Brick.

Harry Loveland, of the Ellicott Brick Co., Jewettsville, Pa., brought his daughter along and if anybody had a good time that week, she did.

M. E. Gregory, of Corning, Pa., was on the sick list. He was recuperating from a bad case of ptomaine poisoning. He was able to attend some of the sessions, but not to the extent he desired. He remained over for the Terra Cotta Association meeting in New York City the following week. From a recent communication we find that he is now greatly improved.

Mr. and Mrs. F. R. Carter, of Peoria Brick and Tile Co., Peoria, Ill., postponed their usual trip to California to take in the convention.

K. G. McMillan, of the Milledgeville Brick Works, Milledgeville, Ga., is a chip off the old block, and that's saying something, for his father has a host of friends among the N. B. M. A. fraternity.

We missed Mrs. Chambers, Mrs. Douglas Stevens, the Eisenhardts, the Clippert girls, Miss Salmen, and the others who generally take part in all the social functions.

We expected Geo. Mentz to show up before the convention was over, but business detained him.



# C. B. M. A. SHOWS PROGRESS

## Third Annual Meeting Held in Conjunction with the N. B. M. A. Well Attended and of Much Interest to the Members.

The third annual meeting of the Common Brick Manufacturers' Association was held in the Pennsylvania Hotel, New York City, January 31st, to Feb. 3rd. It was perhaps the most successful convention of the three held in the life of this young organization.

Monday, Jan. 31, was devoted to registration and meetings of the Board of Directors. Tuesday was given over to the joint session held in conjunction with the National Brick Manufacturers' Association. A report of same is given on other pages of this issue. The part played by the C. B. M. A., in this joint program, consisted of an address by Allen E. Beals, of the Dow Service, New York City, on the subject of "Business, Retrospect and Prospect," an address by Miss Estella T. Weeks, of Hoggson Bros., New York, on the subject, "What the Construction Industry Has Meant in the Past and What it is Today," and an advertising talk by George W. Small, of the Literary Digest, New York. The title of the latter was "A 250 Per Cent. Return on Advertising."

### Second Session.

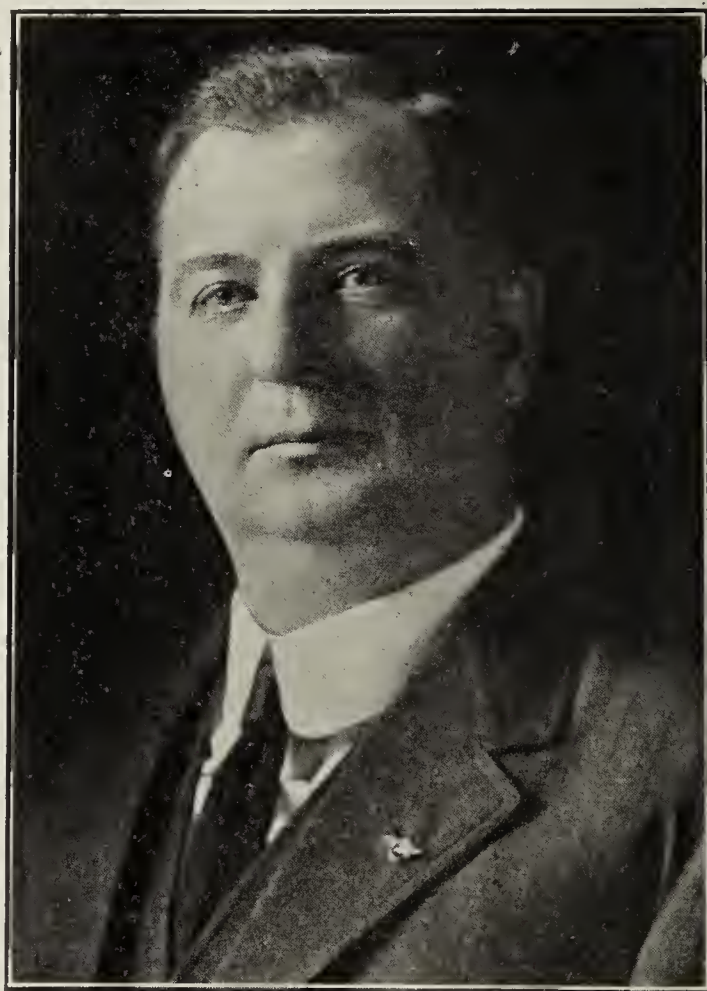
On Wednesday morning promptly at 10 A. M., President Wm. Schlake, of Chicago, called the convention to order and introduced Ernest S. Barkwill, Treasurer of the Association, who made his report. Mr. Barkwill urged the prompt payment of assessments, declaring that the assessment was a legitimate item of the debit to the sales cost of brick just as much as is the salary of a brick salesman. By paying the assessments promptly the organization will be able to plan their publicity schedules in safer fashion and the entire scope of the work will be on an efficient basis. Mr. Barkwill stated that the splendid publicity campaigns in behalf of other building materials should be an example of what can and should be done for the common brick industry.

D. Knickerbocker Boyd, Philadelphia, Pa., made a report of the technical work done in behalf of the common brick industry. This report showed the splendid co-operative work Mr. Boyd has been doing with the various architectural bureaus in connection with investigations as to repairs and obsolescence of various type of construction. These investigations showed that the average figures of maintenance costs were .8 per cent. of brick houses, and 2.5 per cent. for frame houses.

Mr. Boyd pointed out the fact that the co-operation given the Bridgeport Housing Commission had resulted in the choice of brick for the outside wall construction for houses to be erected by the Bridgeport Commission. He also told of the investigation being made as to lime mortar, the furring of brick walls and the strength of walls. A standard specification for sewer brick was being devised by the American Society of Testing Materials. He also mentioned the fact that a series of hand-books on brick for Correspondence School students which would reach 80,000 men, was in course of preparation. His report also brought out the fact that there is a necessity for reducing the cost of construction of homes for people of small means. In thirty cities in this country the building ordinance permits the building of eight and nine inch walls of brick, while sixty other cities included in the

cities investigated, require brick walls thirteen inches thick. Mr. Boyd stated that if an eight inch wall could be used in building houses the entire town of Bridgeport, Conn., would turn over to brick.

Following Mr. Boyd's report, Secretary Stoddard was introduced and an ovation resembling a political rally took place. In beginning his report as Secretary-Manager, Mr. Stoddard complimented Mr. Schlake for his work in the



Charles H. Bryan, Detroit, President-Elect, C. B. M. A.

capacity of President of the Association, and Mr. Boyd for the valuable service he had rendered.

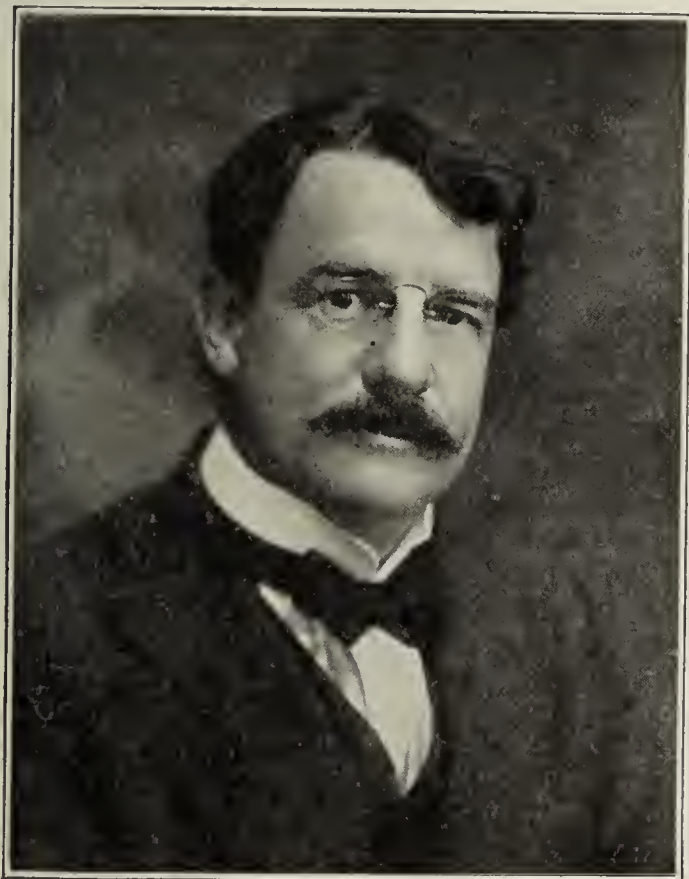
He also prefaced his report with the statement that the U. S. Department of Justice had investigated the files of the C. B. M. A. and had given it a clean bill of health. He declared that although 90 per cent. of the plant capacity of the membership was shut down at this time, all seemed hopeful. In this connection he thought the monthly digest showing conditions from reports sent out would be valuable. He urged the members to co-operate by sending in their confidential reports on stock, etc., so that data could be collected and an average struck that would give the membership the right insight as to the business in general. During the past year 16,000 copies of the Bulletin were sent out. The Association also circulated a great deal of literature about brick, including twenty-four weekly bulletins (8,200 to brick men), and 300 copies of "How to Build," through Permanent Building Bureau, and 300 stories for distribution as editorial matter, etc. Building material dealers were supplied with in-



formation and hundreds of sets of blue prints. In the near future "Building Economy" will be published in a new form to appeal more to the interest of the architects, builders and contractors.

The growth in membership, he stated, was a slow process, the first year it was 167, the second year, 263, while today 340 out of a possible 1,700. This is considered a good showing and argues well for the organization.

The production by members in 1920 was 2,290,917,000, of which 1,963,336,000 was on the 6-cent basis. The preceding year the total was 2,175,130,000, with 1,647,778,000 on the 6-cent basis. They expect to raise \$110,000 this year, of which a certain amount must go for overhead. The organization can do four times as much advertising without increasing the overhead with increased revenue. Mr. Stoddard stated that they would have to cut down advertising to some extent and limit same to the national magazines that had given them the best returns. During 1920, 15,000 letters of inquiry were received, all questions were answered personally. 56,000 pieces of mail were sent out of the Secretary's office, the postage bill alone being \$1,800. The sale of books and plans amounted to \$7,500. The total amount of blue prints sold was 2,140.



D. Knickerbacker Boyd, Philadelphia, Consulting Architect.

Much effective work was done through district meetings, 37 of which were held, requiring the Secretary to travel 29,000 miles.

Mr. Stoddard then brought out the fact that 89 frame houses were built to every 11 of other kinds, and this was due almost entirely to reason for cheaper first cost in construction. He then discussed the new wall plan wherein an eight inch brick hollow wall is used in the cheaper houses instead of solid wall, thus cutting down first cost and making houses so constructed cheaper than similar ones built of frame. This eight inch ventilated wall has circulating air spaces with four different types of construction in which furring is eliminated. An occasional header is left out so as to have vent from basement, the warm air drying out any moisture that might accumulate on inside of wall. Mr. Stoddard explained that the principles were not new, many of these houses have been built for many years past, but that the brick hollow wall had not been pushed and developed to its full possibilities. Concrete and hollow tile block competition in Los Angeles caused the manufacturers there to bring out and develop the brick hollow wall and from the

old idea new designs embodying the same principles of construction had been worked out so that several different types of construction are now available. It is believed that this type of construction will mean the erection of thousands of homes of brick which would, without knowledge of this cheaper fire proof construction, go to other materials.

These walls will be tested in laboratories as to strength, etc. Mr. Stoddard says he has been advised by experts that there is no question as to its strength and adaptability. In concluding his report Mr. Stoddard made a plea for new members and urged greater co-operation in this work of putting common brick on the business level it rightly belongs.

Mr. Dunwody made a short talk in which he suggested that an easy plan for the common brickmakers was to create a sinking fund and to put a sum away each week amounting to 6 cents a 1,000 on ware made and to accumulate this beforehand so that it would be in bank when assessment time came round.

Mr. Miller, building supervisor of New York City, was called upon for some remarks. He stated that building laws should not be too specific, only to the extent that safe construction should be required. He stated that this wall construction must be demonstrated as to its stability before he would endorse it, that he was from Missouri in regards to it at present.

Mr. Ira Woolson, of the National Board of Fire Underwriters, followed and stated while he would not endorse it at that time, for no demonstration had been made to determine the relative strength of the eight inch or the twelve inch wall, he did not feel that the wall was not feasible.

### Third Session.

Thursday morning the final session of the C. B. M. A. was held. Secretary Stoddard exhibited a chart which showed the distribution by cities of the magazines in which Association advertising had appeared in which common brick plants were located. On the average 33 per cent. of the town's population were readers of the magazines.

President Schlake then stated that his company appreciated the fine service rendered by the Association so well that they had contributed \$25,000 to the fund during 1920, as their assessment, and were willing to double or treble that if the other members supported the Association in like fashion in ratio to their production. He made a plea for greater co-operation.

Mr. William Burr, of Ernst and Ernst, cost accountants, then made a long talk on simplified cost accounting for the common brick manufacturers. Three general divisions of the brick business were recommended. (1) General overhead; (2) Departmental, which includes the processing departments and (3) Distribution which includes costs not in manufacturing, but selling, etc.

Following this there arose a heated discussion on Tunnel Kilns after Mr. C. H. Whitescarver, of Williamson, W. Va., had denounced its use for the burning of common brick and citing a failure which had cost one concern thousands of dollars.

Chas. H. Bryan, of Detroit, spoke at some length of the improper promotion of experimental devices, and declared that the trade press was blamable for advertising and booming such devices. As an example he cited the failure of producer gas in brick plant operation, claiming that it had cost investors many thousands of dollars of wasted capital.

Theodore A. Randall replied, taking issue with Mr. Bryan on both propositions. He explained that under postal regulations a paper having been entered as second-class matter, which affords a low rate of postage, is obligated to accept advertising from all reputable and responsible firms or be excluded from the mail as second-class matter, and declared that the trade press, with few exceptions, are not guilty of promoting fake propositions, citing as an example the refusal of The



Clay-Worker to advocate the sand-lime brick game, when by doing so it could have secured advertising worth thousands of dollars. He further called Mr. Bryan's attention to the successful use of producer gas as used in the plant of Charles F. Hermann, at Tell City, Ind., who has used producer gas for several years, and states that he would not abandon its use as a fuel in burning brick and tile. Mr. Randall said he presumed Mr. Bryan based his opinion on the miserable failure of the Ajax Brick Company, of Detroit, where there was an attempt to use producer gas. The application was inefficient, and other features of the plant were so impractical that failure was inevitable. There was nothing about the plant that was right; indeed, the gas producer was about the only thing that did work successfully. It produced gas, but the gas was so misapplied that disaster was unavoidable. It is neither wise nor fair to condemn a system or process because of individual failures, for the latter may be wholly due to mismanagement and wrong practice, as in the case cited.

D. Knickerbocker Boyd led in the discussion on "The Bricklayer and Apprentice." He stated that the bricklayers were striving for a betterment of their trade from within, that they had several committees appointed to work on some par-



Ralph P. Stoddard, Cleveland, Ohio, Secretary-Manager,  
C. B. M. A.

ticular phase of the bricklayers problem which would result in the finding of points for improvement and the elevation of the trade so that it would become more attractive to those who might possibly become apprentices. He stated that the bricklayers were making an honest endeavor and that the brickmakers should co-operate in every way possible with them and the architects and contractors to increase the number of bricklayers and apprentices. He recommended a committee on schools for the study of building trades.

Mr. J. McKenna, President of the Bricklayers' Union, Local No. 1, Philadelphia, was then called upon and he gave a most interesting story as regards the bricklayers' side of the question.

This ended the program proper and the closing business routine was taken up. The report of the Committee of Nomination read by Chairman L. S. Collins, of the Los Angeles Brick Co., Los Angeles, California, was adopted as read. Three new directors were added to the Board of Directors, namely, W. E. Dunwody, Macon, Ga.; Otto L. Oehler, St. Louis, Mo.; and F. C. Ervine, Denver, Colo., while those whose terms expired this year were re-elected to succeed themselves. Max Almond, Texas; Tom Green, Sioux City, Iowa; and Warren Griffiss, Baltimore, Md.; Wm. K. Hammond, New York City,

N. Y.; H. C. Kleymeyer, Evansville, Ind.; R. C. Shimer, Pa., and B. F. Webber, Chicago, Ill.

The new officers elected by Board of Directors are: Chas. H. Bryan, Detroit, Mich., President; W. N. Cary, Albany, N. Y., John P. Cahoon, Salt Lake City, Utah, Wm. K. Hammond, New York City, N. Y., and Fritz Salmen, New Orleans, La., Vice Presidents; E. S. Barkwill, Cleveland, Ohio, Treasurer, and Ralph P. Stoddard, Cleveland, Ohio, Secretary-Manager.

Immediately after this report the Convention adjourned sine die.

#### AMONG THE LIVE WIRES AT NEW YORK CONVENTION.

THERE was not as large a delegation of clay working machinery and equipment men at the Thirty-Fifth Annual Convention as in former years, but there were enough of the representative firms present to give the delegates all the information they needed in regard to machinery, appli-

#### SECRETARY STODDARD'S OFFICE SWAMPED WITH INQUIRIES FOR INFORMATION ON BRICK HOLLOW WALL.

My dear Mr. Randall:

We have plenty of evidence that the new brick hollow wall is creating a real sensation. We are having literally thousands of inquiries from all parts of the country for details. I do not think it too much to say that this wall will revolutionize house building. We do not have one adverse criticism from any source, but do receive the most encouraging approval from the leading building authorities, architects, engineers and practical builders everywhere. Although we are developing it at the present time only for small house construction, it has unlimited possibilities, and we will shortly be able to present this type of construction for curtain walls and for heavy duty structures. We will not print any literature upon the wall until we have the details worked out to the point of being fool-proof. All details and literature regarding this wall will be distributed through the member manufacturers of this association. We will not send them direct to any one. As soon as they are ready all members of the association will be supplied with them, and those interested can get the information direct from them.

Yours very truly,

RALPH P. STODDARD,  
Secretary-Manager.

February 17, 1921.

ances and labor-saving devices. The 100 floor was the main rendezvous although quite a few had headquarters on other floors. The Hotel Pennsylvania fell down miserably in fulfilling reservations, due to the crowded conditions prevalent in New York City during that time of the year. The week previous the Metropolitan Life Insurance Convention took nearly twelve hundred rooms, and many travelers remained over longer than expected and would not relinquish their rooms. A Toy Fair was on the boards all of convention week, and this brought buyers from many sections of the country. This, with other conventions and the buyers of summer and winter goods flocking to New York City, made the hotels overly crowded. But even with this congested condition the exhibitors as a whole took matters pleasantly and were grateful for the service they received.

A spirit of hopefulness and optimism pervaded the whole of the machinery contingent and many booked orders and



secured inquiries which seem to indicate that the clay trade in general is going to improve and enlarge to take care of the increased demand that will be made upon it during the coming months. There was good natured laughter and humor wherever one met up with a crowd of annexers, and time was given aside from the business routine to renew old acquaintances and form new ones.

While placards were not much in evidence, due to the hotel ruling, the N. B. M. A. Bulletin Board donated by the Hoosier Entertainment Committee, at the Indianapolis Convention, came in handy, for on it was printed the exhibitor's name and room number, and this directed the delegates to the source of information for which they were seeking.

The Proctor, Swartz Co. was ably represented by D. H. Applegate and J. L. Buckley. This concern, manufacturers of the Proctor Dryers, is installing same utilizing waste heat

season. Their plant at Galion, Ohio, has been running full handed, full time for many months past.

The Fate-Root-Heath Co. had those jovial gentlemen, H. R. Sykes, H. J. Votaw and J. H. Ridgeway on the job early and late in rooms 131-133. Catalogs, blue prints and handsome leather bill folders were freely distributed. They reported that prospects were exceedingly good and with the business already on the books will have to keep their plant running at full force as they have in the past. The demand for their locomotives is stronger than ever. The clayworkers, as well as manufacturers in other industries, are realizing the great economy in the use of same.

Clarence Anderson, the son of Chas. Anderson, manufacturer of the Anderson Brick Conveyor, button-holed the delegates and presented match boxes on which appeared the words, "The Anderson Brick Conveyor system will light-en your plant problems, ask Charlie at the N. B. M. A. CONVENTION or write Chas. Anderson & Sons, Marinette, Wis."

The Galion Iron Works & Mfg. Co., Galion, Ohio, manufacturers of the Galion Industrial Unloader, through their representative, O. P. Beck, of their coal handling department, distributed literature which gave valuable information rela-

## Here's the Proof

All walls  
8 inches on  
12 inch founda-  
tion.



Ideal Type  
Walls in Red

This is the House

|                         | No. Brick | Cost     |
|-------------------------|-----------|----------|
| All Rowlock             | 24,654    | \$ 6,437 |
| Frame                   | 2,000     | 6,494    |
| Tile Stucco             | 2,000     | 6,644    |
| Rowlock Backing (6 tol) | 27,555    | 6,653    |
| Rowlock Backing (3 tol) | 30,456    | 6,704    |
| All Rowlock Stucco      | 24,654    | 6,710    |
| Brick Veneer-Frame      | 14,265    | 6,724    |
| Brick Veneer-Tile       | 14,182    | 6,767    |
| Solid Brick             | 32,809    | 7,039    |

Brick at  
\$22.00 and \$18.00



Ideal Walls  
Require no Furring

The Beauty  
of  
All Rowlock  
Ideal Wall



The Brick Hollow Wall Types as Shown in the Specimen Walls in the Ante Room of the Convention Hall.

Estimates of the Comparative Cost of the Same House in Nine Different Forms of Construction.

from the continuous kiln instead of steam coils on plant of the Bradford Pressed Brick Co., Bradford, Pa.. They are developing a Proctor Dryer for brick and tile plants utilizing waste heat from the kiln, also putting on the market a new development for handling decalcumania in general ware plants. The representatives declared that business was fine in the ceramic field.

Dr. C. B. Thwing, H. K. Walton, and E. J. Albert represented the Thwing Instrument Co. In room 101A they exhibited new catalogs, charts and their multiple record recorders. They received some live inquiries.

The E. M. Freese & Co. held forth in room 142, where E. M. Place, R. A. Whiston, E. L. Hess, C. Dice and H. H. Freese entertained the visiting delegates. Catalogs, blue prints and souvenir bill folders were distributed. This well-known clay working machinery concern is experiencing a good business

tive to the great saving in the use of the Galion unloader over the ordinary muscle machinery. A concern using a car of coal a week can save 33 per cent. by using the Galion unloader, two cars a week, 67 per cent., and a similar ratio up to 333 per cent. saving on ten cars weekly.

Frank H. Robinson, Pittsburgh, an authority on dryer cars, and clay working equipment, held open house in room 142, convention week. He declares that he has no kick coming so far as sales are concerned, and is optimistic regarding future business.

The American Truck and Body Co., Martinsville, Va., manufacturers of the truck body used in the Fontaine Delivery System which reduces labor cost one-half, was represented by H. C. Childress. There was quite a demand for their illustrated leaflet.

The American Equipment Co., Chicago, had something of unusual interest to show delegates. The mechanical handling of brick through the Penfield system has revolutionized the common brick industry, especially is this true in Chicago. In room 100 was shown a miniature working model of the brick setting machine, which can load 3,000 brick in from 4 to 6



minutes. One fork or unit will keep ten auto trucks busy operating from one end of the kiln. This system can be used to unload from barges, or, in fact, any accessible place. This eliminates breakage, chipping and also counting, for an exact number of bricks are picked up each time and set down in a compact even unit. Messrs. Penfield, Mertens and Fuller represented the company.

Mr. J. P. Dunn, of The Chase Foundry and Mfg. Co., Columbus, Ohio, was on the job throughout the week, distributing their handsome catalog on the Chase roller bearing cars and trucks. The Convention would not seem right without the happy faces of Dunn and his better half. Mrs. Dunn is some singer, she was one of the impromptu quartette at the banquet, joining Mrs. Claud Fuller and the "twins" in a happy manner.

The Hadfield-Penfield Steel Co., formerly American Clay Machinery Co., Bucyrus, Ohio, had as usual, the largest delegation of missionaries present. In this delegation were R. C., L. W. and Preston Penfield, C. B. Sharer, F. L. Hopley, R. O. Perrott, E. A. Baker, Davis Brown, L. Haigh, W. R. Cunningham, W. Merkel, H. Brown and S. H. Stuart, the assistant secretary of the company. This live delegation kept open house in rooms 127 and 128, where, at all hours of the day, there was something doing. Catalogs and literature covering their large line of clayworking machinery, were on display, including special leaflets introducing their gasoline locomotive. Cigars and souvenir key rings were presented to the visitors. Business is indeed good with this concern; they received some orders during the week and were well satisfied with the work of the convention. Mr. Hopley states that not a single industry in Bucyrus has suffered from the depression, in fact, you would not know there had been one if you were only acquainted with their local industries.

H. Brewer & Co.'s representative, E. E. Berry, held open house in room 506. His well known company, which builds horizontal brick machines, automatic cutters, crushers, pug mills, feeders, dry pans and a full line of stiff mud machinery, is not finding these days dull ones.

The Philadelphia Brick Machine Works, Philadelphia, Pa., manufacturers of brick machines, clay grinding and tempering mills, brick yard supplies, heavy and light castings, etc., was represented by M. Bosler. He evidently enjoyed every minute of the Convention, and distributed their catalogs with liberal hand.

The Stevenson Co., Wellsville, Ohio, machinery specialists on dry and wet pans, single roll crushers, sewer pipe and tile machinery, etc., was represented by Thomas A. Hibbin and E. W. Dow. They wore the smiles that won't come off, and appeared to be well satisfied with conditions in general. Room 142 was their headquarters.

The American Dressler Tunnel Kiln Co., of Cleveland, Ohio, had an interesting display in Room 125A, consisting of samples of terra cotta, from the kiln at Northwestern Terra Cotta Company, Chicago; drain tile from Columbia Brick & Tile Company, Atlanta, Ga.; paving brick of Burton Townsend Company, burned in kiln at the plant of Mosaic Tile Co., Zanesville, Ohio, and tile burned in kiln at American Eucaustic Tile Co., Zanesville, Ohio. An automatic stereograph machine was used to show slides of Dressler installations. The firm was represented by Messrs. Low, Shepard, Dressler, Steer and Wulpett. Kilns have been installed recently on Donnelly Brick Co., New Britain, Conn.; Trenton Potteries, Trenton, N. J., and Franklin Brick and Tile Co., Columbus, Ohio.

The Brown Instrument Co. had an interesting display in their headquarters, room 120A, of the Brown High Resistance Duplex Recording Pyrometer, Brown Recording Thermometer and Draft Gauge. There were exhibits of their complete line of temperature measuring instruments for kiln, dryer and stack. The visitor could see the actual operation as ex-

plained by the representatives, Geo. Keller, J. D. Andrews, L. M. Morley and J. P. Goheen.

George Potts was a busy fellow convention week. He and his wife were there for a good time, but George didn't let any opportunity slide by if it meant business for C. A. Potts & Co., Indianapolis. Room 124A was his headquarters. The business of this concern is so good that a new addition is being built onto the old plant to take care of same.

L. E. Rodgers Engineering Co., Chicago, was represented by L. E. Rodgers himself and his advertising manager, Mrs. L. E., who knows how to write copy and is much interested in her husband's business. The company is prosperous because it delivers the goods.

The International Machinery Company, Dayton, Ohio, manufacturers of a complete line of clayworking machinery, was putting special stress on their auger machines, castings, shafts and gears and their dump dryer and kiln cars with new flexible bearing. E. T. Anderle, Ernest Saumenicht, and R. H. McElroy represented the company. Attractive ink wells were given as souvenirs.

Henry Webster was there representing the Henry Webster and Sons Co., of Newport, Ky., in room 137. He told the delegates about the many advantages of his various types of kilns.

The Manufacturers Equipment Co., Dayton, Ohio, was represented by W. H. Sachs and J. C. Harris. These live wires had a busy week with interviews by clayworkers who sought information in regard to their Underwood producer gas burning system, the Justice Radiated Heat Dryer, and their general line of clayworking equipment.

The merits of the product of the Main Belting Co., Philadelphia, Pa., were explained to the inquiring delegates by Earl H. Hiller, who has a host of friends in the trade, all satisfied users of the Leviathan and Anaconda belting. A vest pocket memorandum book was their attractive souvenir.

The Wellington Machine Co., had in room 101, an interesting display of pictures of leading soft mud brick plants built and designed by them. Catalogs and circulars of their complete line of soft mud brick machinery were distributed together with cigars, pencil clips and souvenir thermometers, by D. J. Strickland, manager, and Roy Clisby, president of the Wellington Co. They reported orders for ten Automatic machines received during the week.

W. S. Ramsey buttonholed the delegates and explained the merits of the clay excavator, digger and loader manufactured by the Bay City Dredge Works, Bay City, Mich.

Charles Englehard Co.'s headquarters were in Room 141. C. W. Hubbard and R. W. Newcomb represented the company. The Englehard pyrometers are used extensively in the clay trade, and they had the pleasure of chatting with many of their old patrons.

Chisholm, Boyd & White Co., Chicago, as usual, was represented by H. J. and L. W. Flood. They enjoyed every feature of the convention. Business is good with them for the Boyd Brick Press, "Built up to a standard—not down to a price," is quite popular.

John Moroney, the head, tail and fins of the Chicago Brick Machinery Co., Chicago, had a bully good time, and was as happy as a boy in his first long trousers. Delegates sought him out and received many valuable pointers regarding plant problems.

The Eastern Machinery Co., of New Haven, Conn., had a live wire representative in H. J. Wiley, who whenever buttonholed, had something practical and interesting to tell the delegates about the "New Haven" vertical brick machine.

Always a valuable asset to any clayworkers convention is W. D. Richardson, of the Ceramic Engineering Co., Columbus, Ohio. You could see a group of men around him at any time he was outside the convention sessions.



John C. Boss, of the J. C. Boss Engineering Co., Elkhart, Indiana, was there with bells on—Room 223A was his headquarters, where he had a goodly supply of catalogs, blue prints and leaflets pertaining to the Boss system of burning and drying.

The Westinghouse Electric and Mfg. Co., which has a high reputation for its electrical equipment for clay plants, was represented by James Boyd and O. C. Cordes. Mr. Cordes gave the convention a very interesting paper which will appear in the convention issue of the Clay-Worker.

Gandy belting came in for its full share of praise by many of the delegates who have used it in the past and will use no other. Robt. W. Crane and John H. Barnes, local representatives, attended to this in their usual happy manner.

The J. C. Steele and Sons, Statesville, N. C., is a thriving concern which has a high reputation for clayworking machinery. H. O. and F. F. Steele were present and reported satisfaction as to the year's prospects.

The Roessler-Hasslacher Chemical Co., never allows a convention to go by without some of their representatives being present. Inquiries for chemicals from "America's Leading Ceramic Materials House" were taken care of by Werner Malsch, Otto Will and Chas. Schneider.

The Celite Products Co., manufacturers of Sil-O-Cel, a heat insulation material receiving a goodly demand in the clay trade, was represented by Paul C. Durbin, of the New York office.

The Book of Smiles, the house organ of the Standard Dry Kiln Co., of Indianapolis, was freely distributed by E. DeGroot. Their company makes the Standard Steam Brick Drier used extensively in the clay trade. Many of the delegates were disappointed in not seeing Elliot Senior and Junior, who were prevented from being present on account of pressing business engagements.

The Armstrong Cork and Insulator Co., had an elaborate display in Room 101. This consisted of an exhibition of non-pareil insulating brick and high pressure block and a model of kiln showing method of insulating brick in side walls and crowns, catalogs and samples were distributed by M. E. Pendleton.

S. A. Williams, Jr., as of yore, explained the merits of the products of the Atlas Car and Mfg. Co., Cleveland, Ohio. Large pictures of their storage battery trucks for carrying brick to supplant wheelbarrows were exhibited in the registration room.

The Wilson Maeulen Co. had their headquarters in room 151. Here Wm. Printz and Harry Goldsen gave the delegates information on their pyrometers and heat recording instruments.

Geo. D. Whitcomb Co., of Rochelle, Ill., was represented by its New York agent. Cards and leaflets were displayed, showing their gasoline and electric locomotives.

Marion Steam Shovel Co., Marion, Ohio, was advertised through their catalogs placed on one of the tables in registration room.

The Lakewood Engineering Co.'s representative, W. A. Meddick, Cleveland, Ohio, boosted the Lakewood line of storage battery trucks, electric transfer cars, clay cars, clam shell buckets, etc., and catalogs and leaflets were freely distributed in the registration room and also room 101A.

The Osgood Co., of Marion, Ohio, had a live wire in W. W. Houston, who distributed a most acceptable pocket knife as a souvenir, and incidentally spoke of the merits of the Osgood steam shovel. Special stress was put upon their  $\frac{3}{4}$ -yard Osgood 18-shovel as well adapted for use in clay pits.

Other firms represented were the Bucyrus Co., So. Milwaukee, Wis.; Quigley Furnace Specialties Co., Index, Va.; Scandanavia Belting Co., New York City; Du Pont Powder Co., Wilmington, Del.; Williams Patent Crusher and Pulverizer Co., St. Louis, Mo.

## CANADIANS HOLD PROFITABLE CONVENTION.

THE NINETEENTH annual meeting of the Canadian National Clay Products Association, held at the Carls-Rite Hotel, Toronto, Ont., Canada, January 25, 26 and 27, was one of the most successful ever held in the history of that organization.

An exceptionally high-class program was carried through, and the social features were of unusual merit. The hospitality extended by the local brickmakers and officials was a big event, although Canadian hospitality has a high reputation with those at home and across the line. To Gordon C. Keith, the genial secretary, William Burgess, the president, and C. A. Millar, chairman of the Entertainment Committee, a large measure of credit is due, although the other Toronto members played an important part in welcoming the delegates and making their stay pleasant and profitable.

On Tuesday evening the delegates were pleasantly entertained by a theater party at Shea's Theater, contributed by the local members.

Wednesday afternoon was given over to a trip through Royal Ontario Museum, where the pottery exhibit of the ancient Chinese ware is said to be superior to any other collection in the world. The collections of Persian, Turkish, Italian, Grecian, English and Egyptian ceramic wares were all interesting. Short descriptions of each were given by Dr. C. T. Currelly, who was the host on this occasion.

Wednesday night a delightful banquet was served in the main dining room of the Carls-Rite, at which nearly 150 covers were spread. Millard F. Gibson acted as toastmaster in his usual clever, witty style. The speakers were: Rev. Byron Stauffer, D. C. Merkley, R. P. Stewart, J. M. Scott and Alfred McGuire. The entertainers were: Miss Vera McLean, Wm. Moore and Duncan Cowan, popular Toronto concert singers, and Naomi Holmes, who delighted the audience with her pretty fancy Scotch and Irish dances.

Thursday morning the delegates were entertained at the Strand Theater, where a moving picture film was shown by courtesy of Mussels, Ltd., of Toronto, on How Various Plants Use Their Equipment in Clay and Coal Handling.

Thursday noon Gordon C. Keith gave a special luncheon. This was a final get-together party, the guests all seated around one large table.

The convention was called to order Tuesday morning by President William Burgess. Mr. C. A. Millar, chairman of the Entertainment Committee, made the address of welcome, followed by responses by W. H. Freeborn, of Brantford, and William McCredie, of Belmont.

In his annual address President Burgess expressed hopefulness in regard to the Canadian brick business, protested against the sale of brick made by prison labor, stated that the bill which had been introduced in the Ontario legislature to fix an eight-hour day limit was not at all desirable, decidedly against the clay products business and the welfare of the nation, and condemned those back of the movement for increasing the workman's compensation to 100 per cent. of wages in case of accident instead of 66 2-3 per cent., the present rate, because he feared many workmen would take advantage of their injuries if they received as compensation 100 per cent. of their wages.

The minutes of the executive committee were read, following the president's address. Same showed the constructive work done by the committee during the year. Mr. Keith's (treasurer) report brought out the fact that there was a substantial balance on hand. The convention was in every way a pronounced success.

The report of the tile committee deplored the high cost of



tile ditching machinery, due to foreign make and it being subject to high import duty, and advocated a technical school for the training of the young men in ceramic work.

The election of officers resulted as follows: President, Ryland H. New, Hamilton; first vice president, Millard F. Gibson, Toronto; second vice president, T. H. Graham, Inglewood; third vice president, Andrew Dods, Mimico, and secretary-treasurer, Gordon C. Keith, Toronto.

H. H. Hallet, Tilbury, N. T. Gagnion, Montreal, D. C. Merkley, Ottawa, F. B. McFarran, Toronto, George Price, Toronto, Chas. H. Wallace, Toronto, C. B. Lewis, Toronto, W. T. Nicholson, Toronto, together with all past presidents, comprise the association's executive committee, or rather councillors.

Previous to the reading of the papers the secretary introduced an innovation by calling upon each one present in turn for name and business, in true Rotarian style.

The papers read during the Tuesday session were as follows: "The Outlook in the Building and Construction Industries," by J. Clark Reilly, secretary of the Canadian Construction Industry, Ottawa; "Scientific Handling of Loose Materials," by J. Edgar O'Brien, B. H. Sc., of M. A. Kennedy, Ltd., Toronto; "New Ideas in Pyrometry," by J. J. Mungan, Detroit, Mich.; "Superiority of Clay Sewer Pipe," by A. G. Daltzell, of Clay Products Agency, Toronto; "Putting Waste Heat to Work," by George Cutbush, Don Valley Brick Works, Toronto; "Burning Fuel at Maximum Efficiency," by A. M. Wickens, Toronto.

Wednesday morning's session was given over to the reading and discussion of the following papers: "Tunnel Kilns," by Conrad Dressler, Cleveland, O., and also by George Booth, Islington, Canada; "Experiences in a Sewer Pipe Plant and What Happened When We Changed from Day to Piecework," by Charles A. Millar, Toronto; "Dies for Various Clay Products," by L. Haigh, Hadfield-Penfield Steel Company, Bucyrus, O.; "Experimental Work in Tile," by F. L. Ferguson, B. S. A., Ontario Agricultural College, Guelph, Ont.

Thursday afternoon Secretary-Manager R. P. Stoddard, of the C. B. M. A., made an impressive talk on the subject, "Possibilities of Improving the Brick Industry Through Organization, Standardization and Sales Promotion."

After presentation and acceptance of the report of the committee on resolutions, Millard F. Gibson conducted a question box, which closed the work of the convention.

#### NEW EDITOR OF THE JOURNAL OF THE AMERICAN CERAMIC SOCIETY.

Dr. E. W. Washburn, director of ceramics at the University of Illinois, Urbana, Illinois, has been appointed editor of the Journal of the American Ceramic Society, beginning with the current year.

Any communication for the Journal of the Society should be addressed to Dr. Washburn, at Urbana.

#### THE BRICK INDUSTRY IN AUSTRIA.

CONSUL CAROL H. FOSTER, with the American Mission at Vienn, says that during 1920 most of the brick stock remaining on hand in Austria was disposed of and that production is now getting under way again. Brick making has not been very profitable because of bad industrial and financial conditions, but the needs there for reconstruction are plainly great and urgent, and some progress is being made in restoring the clayworking industry to something like normal conditions again. The reports indicate that production has increased from 25 to 30 per cent as compared to the previous year and that 1921 should bring a considerably greater increase in clayworking activities.

The roofing tile end of the business seems to be faring better than the brick business and some export trade to France and to Yugoslavia has been developed in this, which helps out because it brings outside money.

#### KENTUCKY ANNUAL FEBRUARY 23RD.

THE ANNUAL CONVENTION of the Kentucky Clay Products Association has been called at the Old Inn, in Louisville, Wednesday, February 23rd, at 10 A. M. While this is one of the smallest of the state organizations and the limited number of manufacturers makes a big gathering impossible, it is hoped that there will be a good representation present. Conditions in the brick industry are such as to make it more important than usual for the manufacturers to meet in conference and this it is thought will help to bring out a goodly attendance at the Louisville meeting of the Kentucky State Association.

#### PROMOTING BUILDING ACTIVITY.

A CALL WAS ISSUED by the lumber fraternity for a gathering of representatives of all lines of building material at Chicago, on Jan. 21-22. The announced purpose of the gathering was to seek ways and means to stimulate early activity in building. The morning the meeting was called to order the daily papers contained a report of a conference of labor leaders in which it was stated that skilled labor in the building trade expected to stand pat on the present wage rate of \$1.25 an hour. The following morning a big full page headline blazed forth announcing that forty-seven labor leaders, local lumber dealers, and sash and door and planing mill men had been indicted under the anti-trust laws for combination in restraint of trade. Admittedly these are not encouraging features and their appearing coincidentally with the gathering to promote building perhaps served in some measure to counteract the good efforts put forth. Still we should not get discouraged, more activity in building is needed, and we should keep plugging away persistently at efforts to promote an early resumption of building activity because that way lies prosperity and progress.

#### MASON CONTRACTORS' RESOLUTION.

A RECENT meeting of the Mason Contractors' Association of the United States and Canada, there was discussion of the matter of inefficiency of bricklayers, which it was thought is being unfairly exaggerated, that brought out resolutions indicating faith in the pre-war efficiency of these skilled workers, and also a realization that the time is here to help develop a larger army of bricklayers. The resolutions of interest to the clayworking industry were as follows:

"Resolved, that the Mason Contractors' Association of the United States and Canada, in convention assembled, go on record that it is the sense of this body that the journeyman bricklayers of the United States and Canada, as a whole, except in isolated cases, are now producing an amount of work that compares favorably with that of pre-war years, and that they are co-operating with the mason contractors to the end that the public may be given more production, which makes for lower building costs and more homes."

"Resolved, that it be the sense of this convention that each local association forthwith take the necessary steps to have the art of bricklaying taught in public, technical or



vocational schools, where such exist in the various cities."

"Resolved, that inasmuch as the brick and tile manufacturers are now engaged in an intensive and expensive publicity campaign, our Executive Board be instructed to confer with the officers of the associations to the end that they secure certain financial assistance in teaching bricklaying, in order to be able to supply the demand for the laying up of their product."

#### BOYD PRESSES GOING TO JAPAN.

H. J. Flood, of the Chisholm, Boyd and White Co., of Chicago, was in a pleasant frame of mind Convention week, owing to a recent order for a complete Dry Press Brick Machine equipment for a plant to be erected in Japan. The order totals a snug figure and is one of several similar shipments that the C. B. & W. Co. has made to that busy little island.

#### LET'S HAVE ANOTHER—

Friend Randall:

Just a few lines to tell you how I enjoyed the N. B. M. A. convention. Had the time of my life and besides, it was about the best meeting I've ever attended. A good crowd of brick men, good papers and Broadway—you can't beat the combination. "HAVE ANOTHER" there soon and I will be the first one there.

Regards to all.

Yours,

W. W. DICKINSON, JR.

Little Rock, Ark.

#### OBITUARY.

##### Well Known Terra Cotta Man Suddenly Called by Death.

IT IS WITH DEEP REGRET we announce the death of Oswald Speir, of New York City, managing director of the National Terra Cotta Society, which occurred Wednesday, February 2nd, while Mr. Speir was en route to the annual meeting of the society in Chicago. Death was caused by acute indigestion. Mr. Speir addressed the first session of the National Brick Manufacturers' Association, Tuesday morning and the news of his death came as a great shock to the members assembled in convention who had been most favorably impressed with Mr. Speir's personality.

Mr. Speir was a pioneer in the Terra Cotta industry, having been associated from early manhood with the Perth Amboy (New Jersey) Terra Cotta Company until 1908, when he went to Los Angeles as manager of the Terra Cotta plant of Gladding McBean & Company, and remained with them until June, 1920, when he returned to New York to become managing director of the National Terra Cotta Society. He was held in very high esteem by the members of that organization, who immediately on receipt of the news of his death, decided to hold the annual meeting in New York City, and arrived there in a body to attend Mr. Speir's funeral, which occurred February 5th.

Mr. Speir was a student and devoted much of his time to research work in his chosen field. In addition to the National Terra Cotta Society he belonged to the National Ceramic Society, the National Brick Manufacturers' Association, the American Institute of Architects, and a number of clubs both in New York and California. He is survived by his wife and four children.

Though the dollar seems to have shrunk some in size it still is about the best standard for value measuring in the financial world of today.

#### DANISH BRICK IN UNITED STATES MARKETS—CHEAP TRANSPORTATION AND LOW PRICES GIVE EUROPEAN MANUFACTURING OPENING.

MUCH SURPRISE is being expressed by officials of the United States Department of Commerce at the sale and delivery of building brick in large quantities in the United States by Danish manufacturers. Investigations by the Bureau of Foreign and Domestic Commerce indicate that not only have United States orders been placed for Danish brick in considerable quantities, but it is also shown that a great quantity has already arrived in New York and other ports.

The representative of "The Clay-Worker" sought the views of high officials in the Department of Commerce on the competitive activities of the European brick manufacturers in this country, and found that persons representing themselves to have European brick-manufacturing connections have for some time been in the New York market offering Danish brick for use in American building construction operations at a price considerably below that of domestic building brick.

The chief reason for the appearance of European brick in the United States markets is given as the determination of shipping interests to secure cargoes for their vessels on return to American ports, and the quotation of low rates on brick and other building materials to secure this return ballast, in view of the present non-exporting status of European countries in lines heretofore shipped to this country.

The following statement was secured at the Department of Commerce: For almost a year representatives of building material manufacturing interests have been coming to this country to see what this market offered in the way of sales opportunity. They arrived when building material prices were at their peak last summer and early fall. They were told, it is stated, by financiers that there was a great opportunity for the sale of building materials here, that they were too high in price and that no loans would be made upon building prospects until prices were reduced. The underlying fact was then brought out about the empty or almost empty west-bound shipping bottoms that could bring over vast quantities of basic building material as ballast. They were encouraged about the New York market for brick and other lines.

Europe, however, was having its labor troubles at that time and domestic housing conditions there took heavy account of practically all of the material that could be produced. This foreign building material in ballast began to come into this market, therefore, after the heavy manufacturing costs of last year began to go down, so as to make it possible for the American building material manufacturers to cut their prices to the consumer. But in the falling market building material purchasing stopped. It has continued to be at a standstill until recently.

In the meantime, this ballast building material flowed in in varying quantities, and at many ports, but mostly to New York.

ALFRED T. MARKS.

The contractors for Lenox, Incorporated, of Trenton, N. J., have practically completed the erection of their new plant which is to adjoin their old plant on Mead Street. The building construction is completed, and several glaze or dipping tubs are being installed, while their continuous tunnel kilns are almost finished. It is understood that this company is practically sold out for at least six to eight months in advance, which indeed adds further lustre to this company's famous china.





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OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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CURRENT COMMENT.

New York City is a Good Convention Town.

"Father Knickerbocker" sure did do the honors in a most fascinating manner.

Why go into the antiquity of the brick business? There are plenty of the present day problems to keep us busy.

Every fellow should think a lot of himself, but not too much, for the other fellow is entitled to some of his good thoughts.

The "I Dids" now have it on the "Wish I Hads," for those who attended the N. B. M. A. Convention mixed business and pleasure in a happy fashion.

One of the good things that should come out of every convention is a better fellowship, and that has always been a feature of N. B. M. A. meetings.

One good way to resume business is to get busy and this applies to brick layers. The brick layers claim to be doing efficient work, and here's hoping they make their claims good.

It takes money to run a brick business, and hard work to make a success of it, but the money's here, and also the kind of men who thrive on hard work. Read the report of the N. B. M. A. Convention.

Facing the facts in the building industry brings a realization that it is a good time to preach the doctrine of making

building worth its cost by building for permanency, and that means clay products.

If you were not at the big annual you missed a lot, but can read about it, and that will help some.

Pictures and plans to promote building are now headline actors among the brick and hollow building tile boosters.

Yes, life is just one thing after another, but what kind of a thing it is depends a lot on the man and the things he thinks.

The man who thinks all the progress in clayworking has already been made and it is time to rest should get out and crank up his thinker again.

Take cheer along with you to face your daily trials and you will get through them easier. That's why members of the N. B. M. A. are successful.

Own your home shows help create desire, and if along with them we can manage to raise the cash, there ought to be a lot of new home building under way soon.

The machinery folks help speed up the wheels of progress. They also wield a stimulating influence at conventions. They have always been a helpful influence at the N. B. M. A. Conventions.

Another thing happening recently in New York was the launching of the National Prosperity Bureau, organized to stimulate business. The offices are in the Masonic Building and its slogan is "Buy Now."

There are enough startling facts and figures on fire losses being presented these days to make the home builder stop, look and listen. And while he listens let's be making a convincing noise about clay products.

The idea of governmental regulation and control of certain big industries like packing, coal, steel, lumber, etc., is viewed with concern by business men because of where it may lead to. It is a time for our lawmaker and our business men to move carefully, thoughtfully, and in cooperation to promote—not to stifle—trade and prosperity.

THE HOMELESS SIXTY-FIVE PER CENT.

The figure experts have told us that our new census report shows sixty-five per cent. of our people out of homes in the sense that they do not own their own homes. This too in spite of the fact that we have taken considerable pride in this being a great country of homes. It is too, but these figures impress the idea that not enough people are owning their own homes. Along with it we have newspaper reports to the effect that speculative building is dead because erecting buildings now for rent is not considered a profitable investment. Plainly therefore one of the needs of the day is a concentrated drive to promote home building and home ownership.

MONEY MATTERS.

The biggest and best financial authorities in the country have told us repeatedly, plainly and emphatically that our financial system is sound and that money matters are in a healthy condition. There has been some restriction of credits and a note of caution in financial circles which is a natural re-



action from the reckless period we have passed through. We are assured however that plenty of money is available for sound undertakings considered essential to the upbuilding of industry and the development of business.

It is confidently predicted too that money will be easier and more plentiful as the year advances and business undertakings readjust themselves and get under way. Therefore while it is a time to be thoughtful and careful we should be able to go forward with faith and confidence.

#### NEW YORK'S BRICK HOMES.

Speaking of New York, its history and its greatness, a recent newspaper story tells of the passing of a bit of historical ownership in realty dating back from 1780 and including a row of six four-story brick buildings, 176 to 186 West Broadway, which recently changed hands. These properties were originally erected as dwellings and were built of brick at least 141 years ago and the surroundings have so changed so that what was once their front now is the back. Being built originally for residence purposes they have been used for business purposes for seventy-five years or more.

#### THE BUILDING SHOWS.

All building material interests should keep in mind the date of building shows to be held this spring and participate in them whenever practical. Three big features shows stand out on the spring program. One is the big Own Your Own Home Show to be held at Chicago March 26 to April 2, and again in New York April 16-30. Another is to be held in Omaha, Neb., the latter part of April. Home building is to be a feature of building operations of the year, and taking an interest in and attending these shows should be productive of new ideas as well as serve to develop enthusiasm for promoting home building in every community.

#### IMMIGRATION MATTERS.

The matter of immigration is an important problem and an immediate problem. Also it is a problem which should give serious thought and not yield too much to selfish influences. For labor unions to seek restraint of immigration to safeguard themselves against competition, and for employing interests to oppose this restraint because the labor unions favor it, is poor business. We should put our selfish interests in the background, study this immigration problem on its merits and be governed by these. It is in this way and in this way alone that we will all profit most in the end.

#### RAILROADS AND PROSPERITY.

The railroads must prosper if the country would prosper. That fact is plain and prominent, but right when most of us assume that the railroads were beginning to prosper nicely there comes a discordant note intimating that the railroads are facing financial disaster unless they either have increased revenue or lower operating cost. In a word we seem to be facing a cut in the wages of railway employees, or an increase in railway freight rates. The average business man will not hesitate in voicing his opinion of which it should be. There is a pretty general feeling that railway wages have considerable inflation in them which should be shaken out, and that eventually we should have rate reduction rather than wage increase. The railroads must prosper and railway workers must have fair wages, but fair wages and inflated wages are different things, and right now the bulk of public opinion is plainly in favor of some deflation of railway wages as the first step toward better prosperity.

#### ROAD BUILDING.

Unless all the signs read wrong this is to be the biggest year on record in the building of public highways. Big plans are under way and active work is getting started in practically every state in the union. This will not only help materially in furnishing employment and reviving prosperity but it will bring lasting benefits to the country in the form of better roads.

#### LET US KEEP OPEN SHOP.

Indictment resulting from closed shop agreements in New York and later in Chicago should forcibly remind us to keep open shop in the industrial world. That is to insist upon the open shop policy and management and fight shy of signing agreements which exclude all but union members for employment either in the manufacturing plant or on the building job. Keeping open shop in this sense is so important as a policy that it should not be overlooked or neglected.

#### THE FREIGHT ITEM.

In Material Facts, a little publication issued by the Cleveland Builders Supply and Brick Co., there is some interesting data on the part the present high freight plays in the cost of building material. An illustrative instance related is that of a carload of face brick containing 20,000, which sells in Cleveland on the car at \$30.00 per thousand making a total of \$600.00. The weight is sixty tons, and the prewar freight was \$42.00. Today the lowest freight rate to Cleveland is \$109.20, making it 18.2 per cent. of the selling price. This is a fair graphic illustration of the part freight plays in the delivered cost of building material and incidently it suggests a chance for a wider use of motor trucks in the industry and a more intense cultivation of the home market to shorten the delivery haul and reduce the item of freight to a minimum.

#### LUMBER AND BRICK PRICES.

When the lumbermen called the brick and hollow tile men, the cement men, the sand and gravel men, and representatives of other building material interests to meet with them in Chicago recently to see what could be done to create confidence in the stability of building material values and stimulate building, there seems to have been an opinion among the lumbermen that prices of other building materials should be reduced in a ratio comparable with the recent decline in lumber prices. They found before they got through, after various representatives of the clayworking industry had spoken including, Messrs. Varney and Schlake, of the Chicago brick fraternity, that one reason why brick prices could not decline in keeping with lumber prices was that they had not gone up in the same ratio. The lumbermen enjoyed a boom period during and following the war and run away prices which netted big profits whereas the clayworking industry and several other lines suffered depression instead of profiting by a period of active demand and they really had no inflated prices to deflate. Prices of these products in the main have been governed by cost of fuel and labor and while the fuel condition has improved some lately the labor cost is still a serious problem. Prices of brick and hollow tile and other clay products will by the natural process of supply and demand, with competition as a factor, adjust themselves in keeping with changing cost conditions, but at the present writing there is no room for such radical reductions as have taken place in the lumber world and this fact was duly impressed on the lumber fraternity. It may have been some disappointment to



them but at that the good effect of bringing a better understanding of the clayworking business on the part of the lumber fraternity and it should result in some good. The clay products and the lumber products meet in competition but it were better to make friendly rivalry out of this than antagonism, because both will profit more in the end, and because after all the building of home and other structures involve the use of both lumber and brick and neither can be entirely dispensed with. If the gathering did nothing else it served to bring about a better understanding of these things and a better feeling between the industries.

JOHN HALIFAX, GENTLEMAN.

President Hammond is a presiding officer par excellence. He said many clever things in a most gracious manner, but none happier than, when nominating Jotham Post for Third Vice-President, he likened Mr. Post to John Halifax, Gentleman. It was a fine compliment, which reflected credit both upon Mr. Hammond himself and his neighbor. We doff our tile to both. They are two of a kind, true gentlemen.

RICKETSON'S MORTAR COLORS.

We are indebted to the Ricketson Mineral Paint Works, Milwaukee, Wis., for an interesting leaflet, giving in a terse way, good and sufficient reasons why architects, contractors and building owners find the Ricketson Mortar colors satisfactory in every way. The leaflet also tells how to mix their "Red Brick Brand" colors. The leaflet can be had for the asking. See their ad on page 179 of this issue.

A FINE ROUGH TEXTURE BRICK.

There has come to the editorial desk a fine specimen of brick, of the rough texture variety, made by the Barton Lumber & Brick Co., Jonesboro, Ark., on a dry press brick machine with the attachment of the Progress Press Brick & Machine Company, which is pictured in their ad on page 111 of this issue. The device can be attached to any dry press brick machine and brickmakers making brick by that process who want to make a rough texture brick can do so by doing as the Barton Lumber & Brick Company have done, adopt and use the Progress attachment.

SHORT COURSE IN HIGHWAY ENGINEERING.

Good roads boosters will be interested to know that the Department of Civil Engineering of the University of Illinois, co-operating with the State Department of Public Works and Buildings Division of Highways, will inaugurate a Short Course in Highway Engineering to begin February 21st and continue to the 26th. City Engineers and other officials interested in municipal problems of pavements, sewers, water supply, etc., etc., are invited to attend and participate in the discussions and demonstrations. The course is free. A printed program will be sent those desiring same. Address C. C. Wiley, Assistant Professor of Engineering, 200 Highway Laboratory, Urbana, Ill.

TAX EXEMPTION FEATURES.

One trouble with tax exemption is that we have to make up somewhere else, somehow. There is quite a lot of protest against the tax exemption features of various bond issues including everything from municipal to government bonds, and then just to help muddle the matter more we encounter pleas for tax exemption on real estate paper to encourage building.

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Moreover in some communities another form is being tried is that of exempting new buildings for residence purposes from local taxes for a period of years. The purpose of all these ideas is commendable, that is, to encourage building and especially home owning. There is no question of that. There is a question, however, of our probably getting so involved in tax exemption that we will be sorry of it. Taxes are for raising revenue for various purposes and this revenue must come from some form of taxation, and in so far as possible from all the people in a fair measure proportionate with their earnings or their ability to pay. We should consider this in connection with pleas for tax exemption lest we let our enthusiasm run away with us and lead us into a curtailment of tax receipts on the one hand which will add burden on the other and eventually become unbalanced and unfair.

A NEW POWER TILE PRESS.

The Beaver Falls Art Tile Company, of Beaver Falls, Pa., contemplates the installation of a power tile press, which will enable them to bring their pressing department up to date in every particular. They are now negotiating with the Crossley Machine Company, of Trenton, N. J., regarding the installing of such a press. If they decide to place an order for this press, no doubt it will go to the Crossley people, for they have one of the most up-to-date and rigid presses on the market. Where these machines are already installed they are replacing from two to three hand presses and are making from 1,200 to 1,500 square feet of tile per day. The Beaver Falls representatives intend to spend a day at Matawan, where the Matawan Tile Company have three of these presses in action.



## American No. 292 Repress

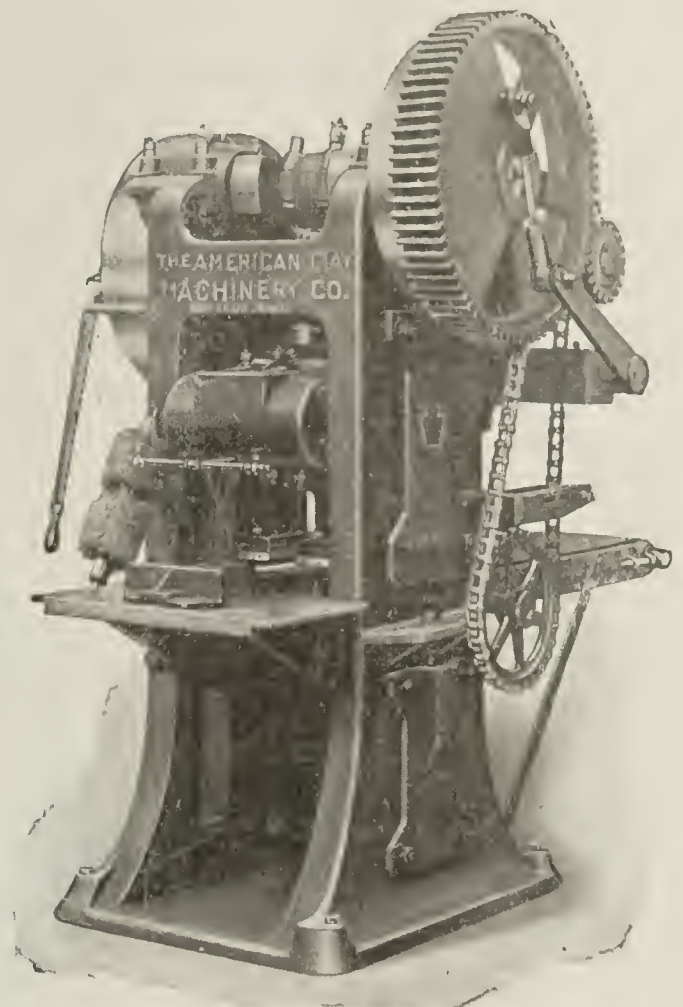
When performance is considered the American No. 292 Repress is the best investment.

Designed for service as well as production it has an easy capacity which insures long life with little upkeep troubles.

All wearing parts are provided with wear resisting features. Gears are ample, bearings large. In a word it's a press you can depend upon.

Get the No. 292 Bulletin for details on this press.

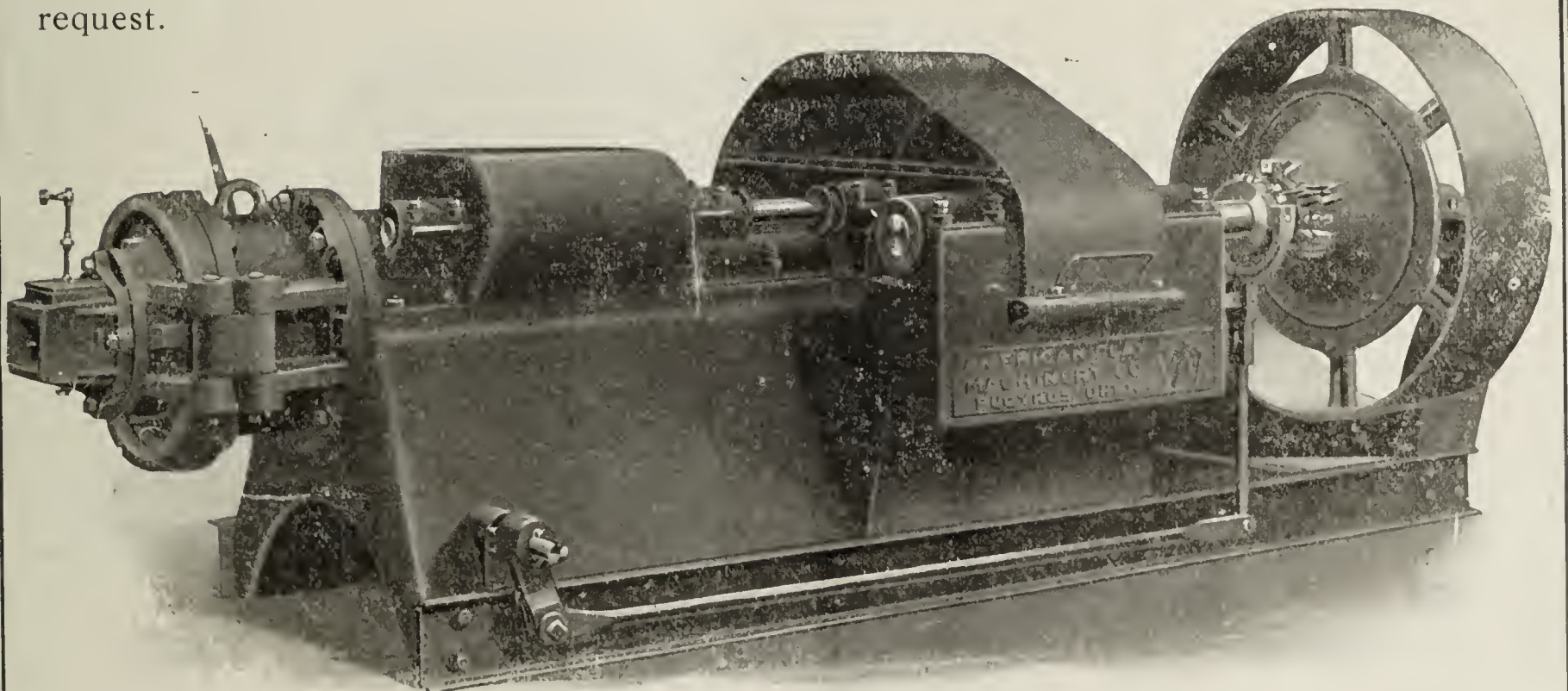
We also build every machine and appliance for making all kinds of Clay Products.



American No. 292 Repress

## American No. 290 Auger Machine

This is an ample machine both in proportion, strength and capacity. In every way it will please you. We will send you detailed description, list of users and testimonials on request.



American No. 290 Auger Machine

**The Hadfield-Penfield Steel Co., Bucyrus, Ohio**

Formerly The American Clay Machinery Co.



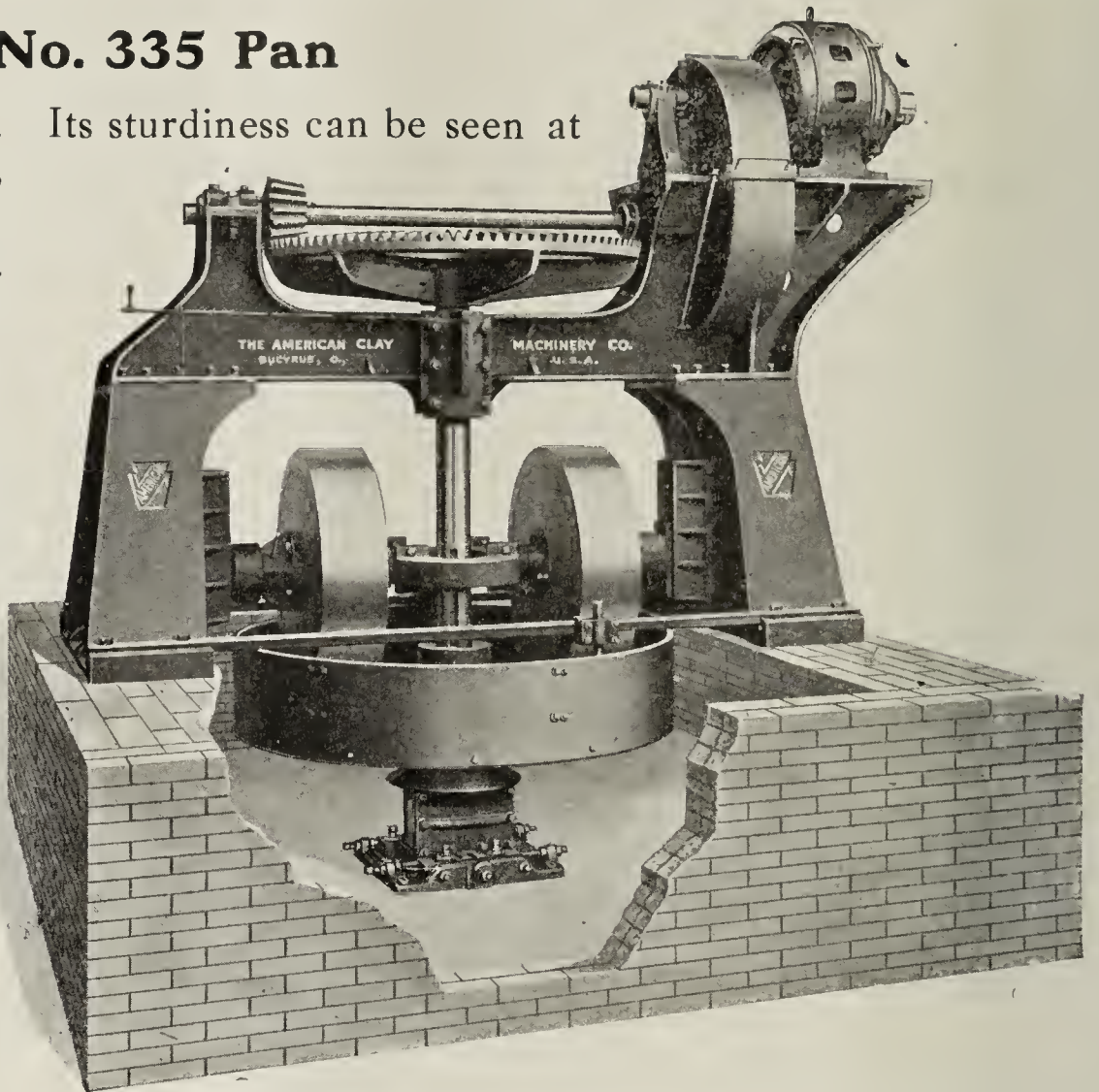
## American No. 335 Pan

This is a pan of production. Its sturdiness can be seen at a glance, and the specifications which we will be pleased to send you will show you where the detailed features of excellence are. This will be an excellent pan investment,

The No. 335 is well thought of by its users and its staying qualities will keep it on the job regardless of the hours of work.

Get the No. 335 Bulletin.

**The Hadfield-Penfield  
Steel Co.**  
Bucyrus, Ohio



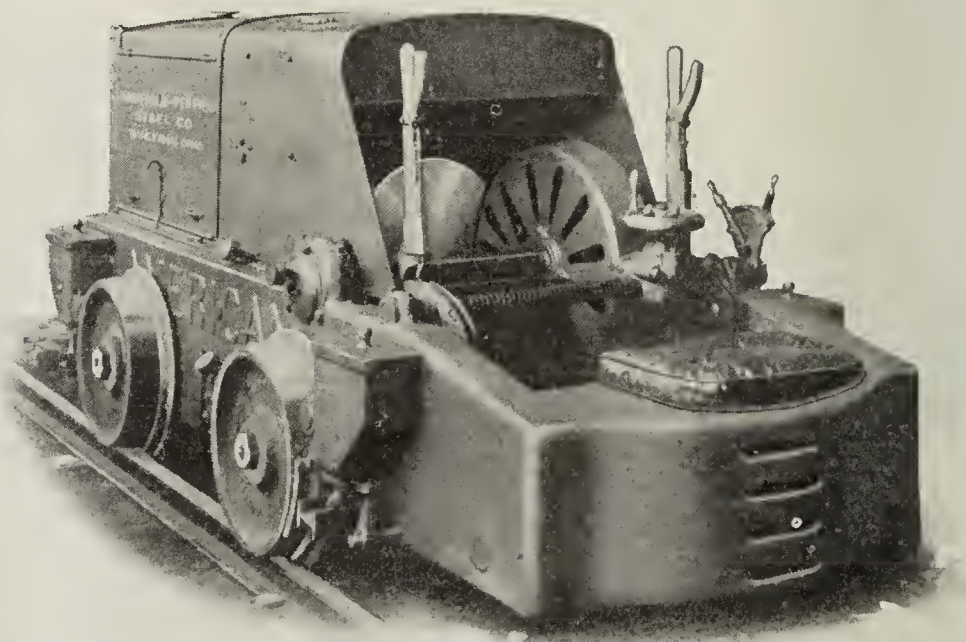
American No. 335 Dry Pan.

## American Gasoline Locomotive

A real locomotive without the disadvantages of steam or electricity. It beats any other moving power around a clay plant. Whether in the pit or on the yard or in the plant its simplicity, economy and flexibility makes a place for it to save and serve.

It's simple, durable, reliable. No licensed engineer required.

Send for catalog.

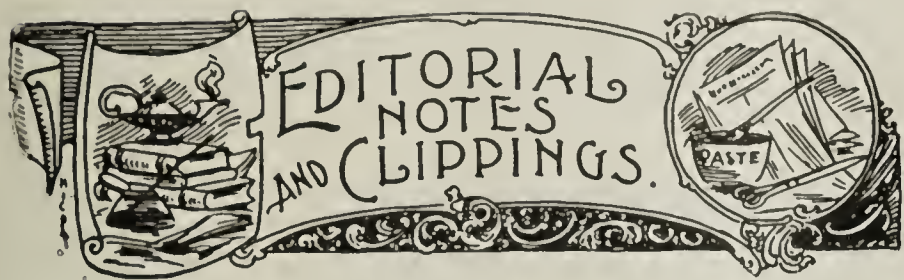


American Gasoline Locomotive.

**The Hadfield-Penfield Steel Co.**  
Bucyrus, Ohio

Gasoline Locomotive Sales Department, 404 Hippodrome Bldg., Cleveland, Ohio





E. J. Jones contemplates establishing a brick and tile factory at DeWitt, Ark.

John W. Pollock, a pioneer brick manufacturer of Ottawa, Kan., died at his home there, January 21.

Fire of an unknown origin caused a \$5,000 loss at the plant of the River Stone & Bridge Company, at Point Marion, Pa., recently.

C. Horton Hart, 666 North Lake Avenue, Pasadena, Calif., writes that he is going to erect a \$75,000 brick and tile making plant at that place.

The Middleton Brick Company, of Canton, Ill., is remodeling the old Heckard plant, at that place, which they purchased last summer. Modern machinery and appliances are being installed.

The plant of the Hood Pottery Clay Products Company, at Daisy, Tenn., which closed down several months ago, resumed full operation February 1st. This is one of the largest plants of the sort in that section.

The Ottawa, Ill., plant of the Chicago Retort and Fire Brick Company, which has only been running four days a week for sometime, resumed full operation the latter part of January with the full force of men on hand.

The Middlesex Brick & Tile Company, contractors and builders, of Boston, Mass., has been incorporated with \$50,000 capital stock. The incorporators are Frank O. Holmes, I. E. Morris, H. W. Sprague, and F. M. Ryder, of Boston, and John Sanjean, of Maiden.

The Mahoning Shale Products Company, which it is understood is owned and controlled chiefly by Cleveland, Ohio, men, has purchased the Carbon plant of the Liberty Clay Products Company, near New Castle, Pa. The property includes seventy-five acres of ground.

Leo Werner has purchased the majority interest in the Beatrice Brick Company's plant at Beatrice, Neb. Orville Farlow will continue as superintendent of the plant, the output of which is 4,000,000 brick annually. The plant, which has been closed down for the winter months, will start operations the first of April.

Extensive improvements will be made in the plant of the Kusa Brick & Tile Company, at Kusa, Okla., which is operated by the Nicholson Corporation, of Kansas City, for the purpose of adding hollow tile and face brick to its output. The business of the company was very good last year and they look for still better trade the coming year.

The Jellico Brick Corporation, Newcomb, Tenn., recently organized with a capital of \$10,000, has plans under way for the establishment of a local plant, with department for the manufacture of fire brick and other refractories. The machinery installation included pulverizing equipment, etc. Peter Zechini is president and general manager; Frank L. Smith is secretary-treasurer.

The Squaw Saddle Mining & Manufacturing Company has now completed plans, according to J. J. Keegan, president, for a brick plant at Wenatchee, Wash., with a daily capacity of 45,000. This is to be the first unit in what will eventually be an important and extensive manufacturing industry, making five different products, all of which are used in building.

At the annual meeting of the stockholders of the Alton, Ill., Brick Company, C. C. Calwell was chosen to succeed the late Edward Rodgers as a director of the company. Eben Rodgers was elected president and treasurer of the company, succeeding his father as president. Harry Myers was elected secretary and superintendent of the plant. Mr. Rodgers, who is an ex-president of the N. B. M. A., had reservations made at the Pennsylvania Hotel for convention week for his entire family, but was suddenly called West, and so missed the convention, which was unfortunate both for Eb and his many friends.

The Queen City Brick and Tile Company, of Cumberland, Md., will make extensive improvements at their plant approximating \$50,000.

The North Missouri Fire Brick and Clay Company, of Farber, Mo., has been organized with a capital stock of \$40,000, by B. Hill, J. W. Gallaher and D. O. Grace.

Fire believed to have originated from an overheated stove destroyed the tool shed of the Corry Brick & Tile Co., Corry, Pa. Warren DeRosay, general manager of the company, estimates the loss at \$600.

The plant of the American Vitriified Clay Products Company, at Toronto, Ohio, which has been closed since April, 1920, started operation the first of February, with orders on hand to keep them running for some time.

C. C. Cocke, Crofton, Fluvanna County, Va., advises us that he expects to start a brick and hollow building tile plant at that place, and is in the market for machinery for a small plant of that sort, either new or second hand.

The Salvason Face Brick Company, of Petersburg, Ill., certified to a change in name to the Petersburg Face Brick Company, and decreased the capital stock from \$120,000 to \$36,000. F. W. G. Kofflin is president of the company, and E. E. Brass is secretary.

At the annual meeting of the Better Brick Company, of Duluth, Minn., the following officers were elected: President, F. W. Jolitz; vice-president, Victor L. Seline; secretary-treasurer, H. C. Brown. Reports showed the company in a very prosperous condition, with good prospects for the coming season.

John A. Merley, president of the Mapleton Clay Products Company, of Canton, Ohio, died January 30th, following a stroke of apoplexy. Previous to purchasing the Mapleton Clay Products Company two years ago, Mr. Merley was general manager of the National Fireproofing Company, of Canton. One son survives.

E. E. Rose, of Toledo, Ohio, is at the head of a company recently organized at Wellsboro, Pa., to be known as the Wellsboro Shale Brick Co. Machines will at once be purchased for the new plant, making building brick to start with, but later on will go into the paving brick line. The company has leased 200 acres of land, with the option of purchase. Julius DeShetler, of Toledo, will be manager of the plant.

Fred Gleckler, of Oak Harbor, Ohio, a brick manufacturer of many years' experience, has perfected an arrangement for protecting the heads of the kiln arches where stationary walls are used. He has found it of such benefit in preventing cracked and broken arches in clamp kilns that he is now offering it to the trade and makes the very liberal terms of one year free trial. Any one interested in the proposition should address Mr. Gleckler direct.

In order to stimulate the building of homes in Salt Lake City, John P. Cahoon, president of the Salt Lake Pressed Brick Company, Salt Lake, Utah, announced the latter part of January, a reduction in the price of common building brick to \$12.50 per thousand, with prices on other grades of brick and tile to correspond. Mr. Cahoon reports that an encouraging number of inquiries are being received for brick, which indicates a good demand with the coming of spring.

At the annual meeting of the stockholders of the Purington Paving Brick Company, Galesburg, Ill., the following directors were elected: F. G. Matteson, W. H. T. Terwilliger, G. P. Hoover, George C. Gale, W. H. Pankey, W. E. Phillips and O. N. Custer. The directors in turn elected the following officers: President, F. G. Matteson; vice-president, O. N. Custer; secretary, W. H. Terwilliger. According to the report given by the officers, the company had a very satisfactory year in 1920, and the prospects are good for a better year to come.

To permit operation under a name that is more significant of scope and extent of the business than the present one, the directors of the Pacific Sewer Pipe Company, Los Angeles, Cal., announce the corporation will be known hereafter as the Pacific Clay Products Company. This decision involves no changes either in management, ownership or policy, it is stated. The company's products have become so varied and its activities so extensive that the old name has become a misnomer. The officers of the company are: Edward M. Durant, president; N. W. Stowell and J. H. Bul-



lard, vice-presidents, and Archibald Douglass, secretary. Frederick Wightman and J. W. Swanwick, together with the presidents, constitute the directorate.

The Fannin Brick Co., of Phoenix, Ariz., is quite busy making both face and common brick. The demand is largely local, but it is sufficient to keep the plant running full handed.

The Southern Brick Company will make a number of improvements in its plant at Bristol, Tenn., with a view of doubling the present capacity of same. W. A. Mahan is manager.

Suit has been brought against the East Peoria Brick & Tile Company and F. R. Carter, of Peoria, Ill., for \$10,000 alleged damages resulting from the smoke and fumes from their brick plants.

The Lock Haven Fire Brick Company's plant, at Lock Haven, Pa., which had been idle since Christmas, started up the latter part of January, with a full force of men, but with a reduction in wages.

The Clay City Tile Company and the Lyons Fireproofing Company of Brazil, Ind., are both making a number of improvements in plants including the installation of a new patent revolving clay screen, the invention of Frank Roberts, of Brazil.

G. H. Galvin, general manager of the Rockford Brick & Tile Company, Rockford, Iowa, reports that they have just received the largest single order for brick in the history of the company. This particular order calls for 1,500,000 brick and goes to Ned Hampton, Iowa.

The factory of the Kenilworth Tile Company, at Newell, West Va., was almost completely destroyed by fire recently. The loss is estimated between \$35,000 and \$40,000, partly covered by insurance. This fire is the third one which the company had in that many years.

J. T. Reading, of Sidney, British Columbia, has purchased the plant of the Bazan Brick Co., at Victoria, British Columbia. The plant, which has a capacity of 4,000 brick per day, is being overhauled preparatory to starting up April 1st. They will manufacture drain tile as well as common brick.

J. F. Driscoll, general manager of the International Brick Company, of El Paso, Texas, reports that 1920 was their banner year, both as to quality and quantity of their product, and the volume of business. A large amount of construction work must be done at El Paso in 1921, and, of course, brick will play a prominent part in same.

Howard Frost, president of the Los Angeles Pressed Brick Company, of Los Angeles, Calif., predicts that 1921 will surpass any former year in volume of business. The company is shipping immense quantities of hollow tile to Honolulu for use in government buildings being erected there. In addition to supplying the local demand, this company also ships to twelve western states. The company has four large plants located at Santa Monica, Alberhill, Los Angeles and Richmond, and all are running to capacity.

The Moscow Fire Brick & Clay Products Company, Moscow, Idaho, with Thomas Hall as manager, had a very prosperous year in 1920. Their product has gone to Montana, Oregon, Washington, British Columbia and Alaska. A large per cent of their products is handled by the Consolidated Supply Company, of Spokane, Wash. The company is making a number of extensive improvements in the plant with a view of adding to their line of clay products. They expect to manufacture both face brick and chimney block. The directors of the company are A. S. Lyons, John Nisbet, Warren Truitt, H. B. Bickey and O. C. Munson.

Lee B. Humphrey recently completed negotiations by which he acquired all of the holdings of the Humphrey Brick & Tile Company, and W. N. Humphrey & Brother, of Brookville, Pa. The transaction includes over 2,100 acres of land with mineral rights, the plant of the Humphrey Brick & Tile Company, office building, a number of dwellings, twenty-five gas wells, and fifteen miles of gas lines. Mr.

Humphrey is an indefatigable worker and deserves all the success that has come to him. He found time immediately following this big deal to take a week off and enjoy the N. B. M. A. convention at New York, together with Mrs. Humphrey.

The plant of the J. R. Martin Tile & Brick Co., Rosenberg, Texas, resumed operations the first of February, running to full capacity. The plant had been closed down for three months.

S. C. Martin, president of the Kittanning Brick & Fire Clay Company, Kittanning, Pa., has been elected a director of the Diamond National bank, Pittsburgh, succeeding the late John W. Robinson.

The general office and sales department of the Hebron Fire & Pressed Brick Company, of Hebron, N. Dak., has been moved from Hebron to Fargo, N. Dak. J. H. Holman will have charge of the Fargo office. This company has one of the largest plants in that section, turning out 30,000,000 brick a year.

At the annual meeting of the stockholders of the Duffney Brick Company, Mechanicsville, N. Y., the following officers were elected: President, Dr. J. M. Purcell; vice-president, Ella C. Orcutt; treasurer, Richard A. Moore, and secretary, E. A. Purcell. Arrangements were completed for extensive improvements at their plant No. 1, including installation of new machinery and appliances, which will make this plant one of the most up-to-date in that part of the state. When completed the plant will have a capacity of 200,000 brick a day, and with plant No. 2 will give the company a yearly output of 70,000,000 brick.

Reorganization of the Compania Ladrillera de Tampico, which was formed some time ago for the purpose of constructing a large sand-lime brick manufacturing plant at Tampico, Mexico, has at last been accomplished. The new company has a capital stock of 300,000 pesos, which are equivalent to \$150,000 American money. Ed Williams, an American who has been a resident of Mexico for many years, is at the head of the project. The proposed plant will have facilities for turning out 96,000 sand lime bricks every twenty-four hours. Construction has been started at Miramar, a suburb of Tampico, of a building 120 by 84 feet for the company.

The Galloway Terra Cotta Company, located at Walnut and Thirty-Second Streets, Philadelphia, Pa., have been contemplating for sometime the installation of a new seven-foot wet pan, but due to the very high price of high-grade machines they have decided to discontinue this project until prices once again adjust themselves.

The Bellevue Pottery, of Bellevue, Iowa, contemplates the installation of a clay washer and blunger outfit. It is understood they intend to develop large clay tracts which lie near their plant. Mr. Z. G. Houck is manager of this company.

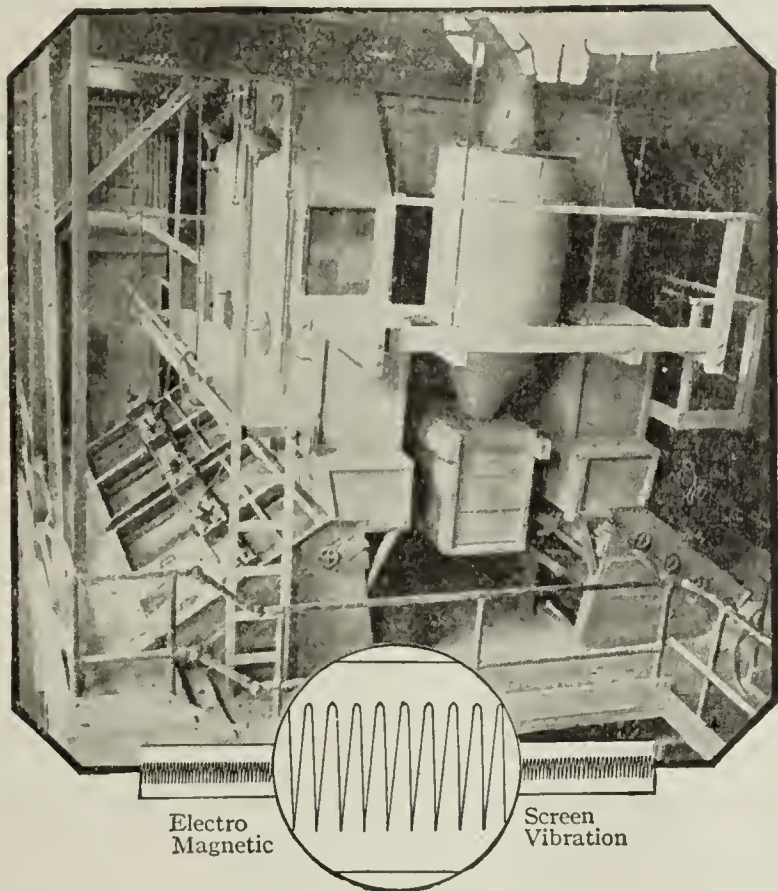
Mr. Charles W. Thomas, of Wayne, Pa., dealer in abrasives and refractories, intends shortly to purchase sagger presses for the manufacture of abrasive wheels up to 10 inches in diameter. He also contemplates the purchasing of a power laboratory jaw crusher for the granulating of crude abrasive.

The Summit Porcelain Company, of Summit, New Jersey, is progressing rapidly in the erection of the new plant to be located at Park and Chestnut Avenues. Mr. Jack Lovatt, of Trenton, N. J., is now building the kilns and the machinery, which is to be of the Crossley type entirely. The company is going to manufacture porcelain and porcelain specialties.

The Marblehead Potteries, of Marblehead, Massachusetts, are having their No. 2 clay mixing outfit practically made over. They also intend installing a small pug mill, but up to the present time they are undecided as whether to install the Crossley type mill or the Ivens type. Mr. Arthur E. Baggs is the manager of this concern.



## HUM-MER INCLINED SCREEN



## Used by Brick and Clay Companies

**T**HE low cost of screening by the HUM-MER' method—and the large tonnages produced—makes screening practical and profitable.

It is a method of removing fines at a stage in the crushing process where it is most profitable.

The HUM-MER Electro-Magnetic Vibrating Screen is especially adapted to heavy duty—with low cost of upkeep.

The vibration is produced by means of an electro-magnet and is applied directly to a taut, drumhead tension screening surface.

The electro-magnet pulls the screen cloth upwards with a sharp impulse, the alternations of the current pulling up and releasing the screen at high speed, and a remarkable screening effect is produced.

**NO LUBRICATION IS REQUIRED**, as no cams, hammers, eccentrics, unbalanced shaft or other mechanical means of vibration are used.

Less than four feet of headroom is required to install the type of HUM-MER furnished for mining work.

Catalogue No. 42-W sent upon request.

**THE W. S. TYLER COMPANY, Cleveland, Ohio**  
Manufacturers of woven wire screens and screening equipment

What  
HUM-MER  
Users Say*"Handling Very Large Tonnages"*

"We have found the HUM-MER to be very satisfactory, handling very large tonnages and screening the coal very efficiently. It has given us practically no trouble and we are very well pleased with it."

*"Up to Expectations in Every Respect"*

"The operation of the HUM-MER is very satisfactory and comes up to our expectations in every respect."

*"Best Machine for Purpose"*

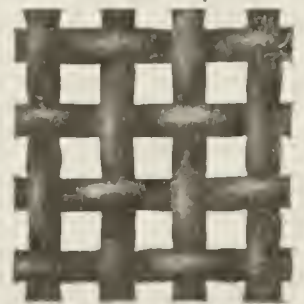
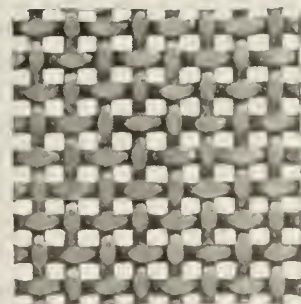
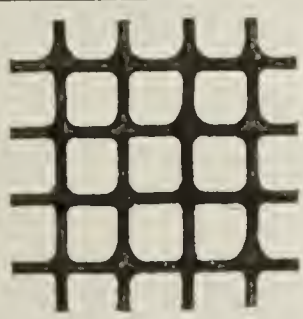
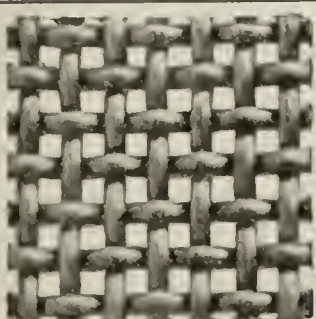
"I believe that the HUM-MER Screen is undoubtedly the best machine on the market for the purpose, and we have been very much pleased with the attitude of the Tyler Company with regard to equipment which we have purchased from them."

*"Glad to Recommend It"*

"We are pleased to state that the HUM-MER Screen has given entire satisfaction, and shall be glad to recommend it to anyone contemplating putting in screening machinery."

*"Satisfactory in Every Respect"*

"We have for some time been using HUM-MER Screens made by The W. S. Tyler Company, of Cleveland, Ohio, and have found them satisfactory in every respect, and therefore have no hesitancy in recommending them."





Written for THE CLAY-WORKER.

OF INTEREST TO POTTERS.

The Illinois Electrical Porcelain Company, of Macomb, Ill., manufacturers of Standard and Special Porcelains and Pole Line Insulators, intend to install a new sagger press. They have just recently built a new fireproof sagger department 50 feet by 96 feet. The press must be modern in every respect, and is to make saggars 16½ inches outside diameter, and from 3½ inches to 10½ outside height, the saggars being of the standard thickness.

The Vitriified Wheel Company, of Westfield, Mass., manufacturers of emery and corundum wheels, will install several jiggers to enlarge their jiggering department.

The Hartford Faience Company, of Hartford, Conn., manufacturers of high grade porcelain for electrical specialties, contemplate putting in a pug mill which will enable them to increase their capacity. Mr. G. D. Rankin is general manager of this plant.

The General Electric Company, of Schnectady, New York, are now installing machinery in their new plant at Pittsfield, Mass. The machinery is of the very latest design throughout. The ball or pebble mills are being furnished by the Abbey Company, of New York City, the screw or dust presses, two sagger presses, and a wet pan are being installed by the Mueller Machine Company, of Trenton, while the filter presses, lawns, blungers, and 7-foot wet pan are being furnished and erected by the Crossley Machine Company.

The Ionia Pottery Company, of Ionia, Mich., manufacturers of flower pots, lawn and hanging vases and fire brick, intend to avail themselves of clay which they have on their property. They are having this tested and washed to determine its merit. If this clay is satisfactory it is the intention of the company to buy the necessary machinery to start the manufacture of tiles.

The Homer Knowles Pottery Company, of California, with offices at the Bank of Italy Building, Santa Clara, Calif., are now receiving proposals and plans for the new plant which is to be erected shortly in California. This company is proposing the erection or installation of a self-contained blunging equipment, with the blunger tank to be above the floor line, and the agitator partially under blunger foundation, and which will be supported by eyebeams covered over with concrete. This type of layout will give them practically a clear floor space and the agitators would be of easy access and would not obstruct the floor space. This is one of the latest ideas in blunging or blunger equipment. The company intends starting operation with five kilns and then continuing the construction until they have at least ten kilns. They do not intend installing a sagger machine until they have ten kilns.

The Onondaga Pottery Company, of Syracuse, New York, are anxiously awaiting the receipt of their flint and spar grinding machinery, which they have on order from the Crossley Machine Company, of Trenton, N. J. This machinery will include one 5-ft. 6-in. chaser mills with 18-in. face stones. Later on it is the contemplation of this company to install ball mills of the largest type, which will give them one of the best and most up-to-date pottery plants in their locality.

The Owen China Company, of Minerva, Ohio, manufacturers of high grade porcelain and hotel china, also underglaze decorations, intend to install a new pug mill in their sagger department in the course of a very short time to be electrically driven.

The Trent Tile Company, of Trenton, New Jersey, have just completed the installation of a new sagger pug mill.

This mill is of the vertical type and is of the very latest type, and was furnished by the Crossley Machine Co.

Practically all the machinery for their new plant in Baltimore, Md., has been received by the Locke Insulator Corporation, and same is now being installed under the direction of Mr. W. S. Austin, their able erecting engineer. The new buildings of this concern were just recently finished.

Mr. Phillips, of the Sneyd Enameled Brick Company, of Trenton, N. J., reports a fine demand for high grade fire brick. He—also states that most of his production is along this line. The prevailing price of the best grade of fire brick is around \$85.00 and \$90.00 per thousand. Several potteries in this locality are furnished with their requirements by this concern. From time to time improvements are being made at the plant which give it more production and increased efficiency.

The Such Clay Company, of South Amboy, N. J., has recently been purchased by Mr. L. H. McHose, of Perth Amboy, N. J. This company produces high grade fire clay and sands. Mr. Such, of the Such Clay Stills, maintains a prominent position with this company.

Rapid progress is being made by the New Jersey Tile Company, of Trenton, N. J., in the erection of their new plant on Brunswick Avenue. The plant will probably cost in the neighborhood of \$100,000, when machinery and other equipment are installed. This company specializes in the manufacture of high grade, white, vitreous floor tile and has lately added a special line of colored tiles. Mr. Francis M. Walker, of Trenton, N. J., is president of this enterprising concern. It is understood that this company intends to install a power tile press in the course of a short time.

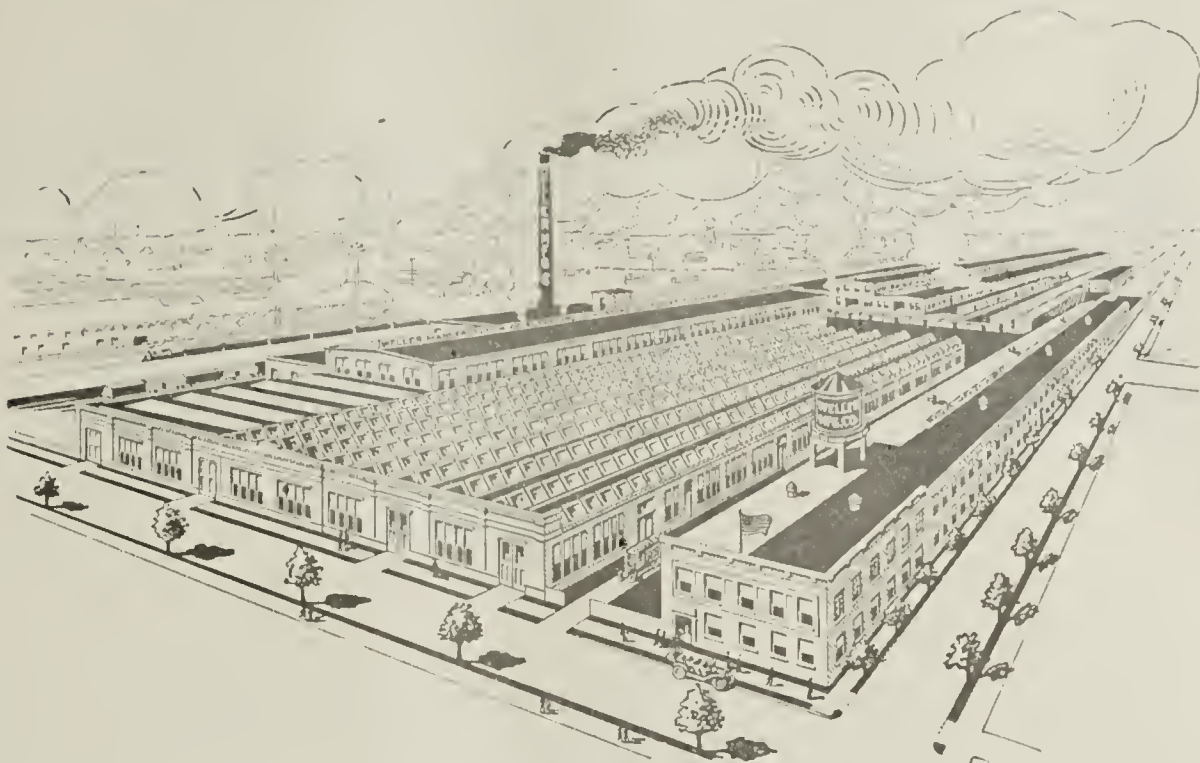
The Athens Pottery Company, of Athens, Texas, owners of large clay plants and tracts near Fort Worth and Athens, Texas, contemplate in the near future the erection of a large plant at Eustace, Texas. These people have been manufacturing clay products in Texas for the past thirty years. Their plant is equipped with the American Dresser tunnel kiln and has a capacity of 40,000 brick per day. This concern also manufactures tiles and stoneware. It is one of the most progressive plants in the Southwest. Mr. P. E. Miller is president and general manager of this concern.

The Lakewood China Company, of Cleveland, Ohio, have recently installed new kilns which have doubled their capacity. This plant is indeed a novel one and should, therefore, be justly proud of itself. It holds two distinctions, namely, it is the only pottery plant in Cleveland, proper, and is the only plant in this county devoted exclusively to the manufacture of children's and doll set china. The company has been in business but a short time, but has established a reputation which will last for sometime to come. It was organized expressly to fill the need of the children's line, and out of it have come the famous "Darling Dolly Dishes," which all young future housewives will recall.

The D. E. McNicol Pottery Company, of East Liverpool, Ohio, announce a great demand for their yellow and Rockingham ware. This company is the sole producers of this line of ware in the Ohio district. For a number of years only two kilns were utilized for the production of this class of pottery, but they have met with such a demand that it has been necessary to add nine more kilns to take care of the call.

The Empire China Company, of Brooklyn, N. Y., have found that the making of dies by outside machine shops is so expensive that they have decided to install a new machine shop. In this shop they will not only be able to supervise the making of their dies, but also they will stand ready to make repairs to their machines.



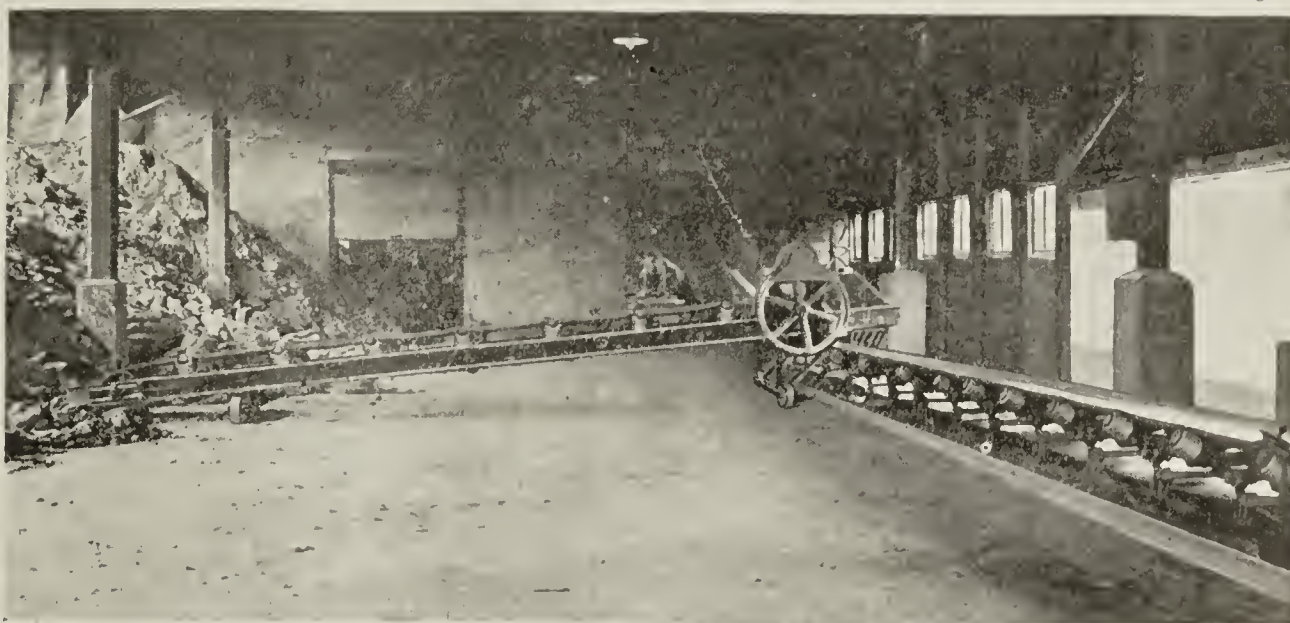


THE PLANT OF THE WELLER MANUFACTURING COMPANY, CHICAGO

## ELEVATING, CONVEYING AND POWER TRANSMITTING MACHINERY FOR CLAYWORKING PLANTS



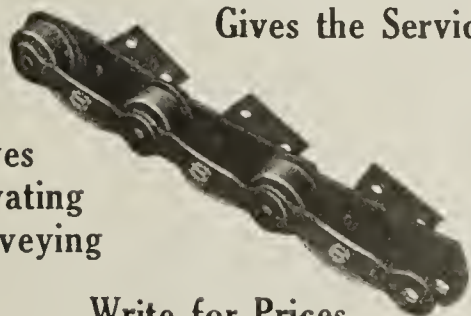
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*Send us your inquiries.*

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San Francisco

Salt Lake City



# THE ANNEX



WHEN Hotel McAlpin acquired The Annex, formerly the Martinique, there was established, first the spirit of enthusiastic attention that never fails to assure a guest that his patronage is valued.

Following closely upon this first important step came others which have proved equally successful—among them an expert Bureau of Information and Assistance which enables a guest to leave the details of his arrival, departure and trips he wishes to make to people who are able and willing to assume them.

*Under the direction of L. M. Boomer  
Frank E. Jago, Resident Manager*



*32nd Street and Broadway*

Written for THE CLAY-WORKER.

NATIONAL CAPITAL BRICK MANUFACTURERS MARK  
TIME—\$75,000 BRICK PLANT FIRE.

NATIONAL CAPITAL brick manufacturers report but little activity at this writing, but all are looking forward to an increased demand once building conditions become stabilized. No price reductions have yet been made by manufacturers in this section, and it is not believed that there will be any break in present figures, notwithstanding the fact that all of the yards have considerable accumulations of stock. Present brick stocks on hand are said to total close of 30,000,000 of all grades.

The office and main manufacturing plant of the District Tile and Brick Company, in the northeast suburbs of Washington, D. C., was completely destroyed on February 1, when a fire broke out on the top floor of the main building and rapidly spread throughout the plant. The loss is placed at \$75,000. The plant was one of the largest in this section of the country. Work in the big plant had been stopped during the war, and it was only on December 1, 1920, after extensive remodelling and rebuilding, that the plant was reopened. Costly machinery that had hardly been used was totally ruined, the extreme heat warping the heavy iron girders and causing them to fall. The fire was one of the most spectacular seen in the national capital for years. The buildings, which were practically all of wooden construction, and covering more than half an acre of ground, were three stories high. It is understood that the plant is to be immediately rebuilt.

The Bureau of Foreign and Domestic Commerce, Department of Commerce, has received a communication from a manufacturer located in a leading city in New Zealand, asking that he be placed in touch with United States manufacturers of sand-lime brick-making machinery, for which he desires to secure the agency for New Zealand. He will, at the start, purchase a complete plant for the manufacture of bricks from a combination of sand and lime. Price quotations should be given f. o. b. steamer at an American port. References can be furnished. All details and particulars will be furnished those who may be interested by the Bureau of Foreign and Domestic Commerce, if inquiry number 34,274 is mentioned when request for same is made.

ALTHOMAR.

## OHIO CLAY NEWS.

Almost the first break in the high price of building and paving brick in the Canton district came when Paul Belden, secretary and general manager announced the second \$2 per 1,000 reduction in less than a month. Mr. Belden told the Clay-Worker representative that the lowering production cost was responsible for the reduction. He said coal is much cheaper and labor employed at the company's various plants has accepted a cut in wages ranging from 15 to 20 per cent. He predicts a revival of building here soon.

At the annual meeting of the stockholders of the General Fireproofing Company, Youngstown, Ohio, the following retiring officers were reelected as follows: Chairman, M. L. Arms; President, W. H. Foster; Vice president and general manager, S. S. French; Secretary and Treasurer, R. M. Bell. Stockholders were informed that business was very quiet at this time but that prospects are for a revival after the first quarter. Reports from the company have indicated about 65 per cent. operations which are being maintained. Directors at the meeting declared the preferred dividend of seven per cent. for the current year payable the first of each calendar quarter. Common dividend action will be taken from quarter to quarter, as heretofore.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

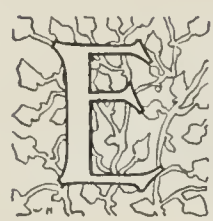
# THE MANUFACTURERS EQUIPMENT CO.

## DAYTON, OHIO, U. S. A.



Written for THE CLAY-WORKER.

## PACIFIC COAST NEWS.



EVERY ONE connected with the brick and clay industry in California is well satisfied with the present activity of the business and the prospects in the immediate future, which are deemed more than bright for the trade. Unlike many other sections of the country, California is not suffering from business depression in general to any great extent, and the clay products industry here is booming as well as any other branch of business.

With a building boom in San Francisco in sight and an altogether better labor situation, men prominent in the industry feel that the tide has turned for the better. A conspicuous example of the general difference of feeling on the part of labor is evidenced in the action of brick masons employed by the Utah Fire Clay Company, at Salt Lake City, in which several hundred men asked the company to reduce their wages from \$10 to \$8 per day.

Los Angeles is destined to become the center of chinaware production for the United States, according to Theodore A. Bell, whose connections with the industry are large. One plant has been purchased, known as the Furlong-Poxen Potteries, in Los Angeles, by Bell, with his business associate, Thomas Normile, a man of twenty years experience in chinaware production. The basis of the startling contention of Mr. Bell is the finding of what he calls "the world's greatest chinaware clay deposit" near the Southern California city, after it had been "lost" for the last thirty-seven years.

America can be kept in dishes for the next thousand years from the pottery clay in the vicinity of Los Angeles, when it is mixed with the clay from the much discussed "lost" deposit, according to Bell and Normile.

Establishment of a large pottery works on San Francisco Bay is projected by Homer Knowles, of the Knowles, Taylor and Knowles Company, of East Liverpool, Ohio. Mr. Knowles has just completed a survey of conditions near San Francisco, and states that two hundred skilled workers, have signed to come out from the East with their families when actual operation commences. The pottery will be located at Santa Clara, a suburb of San Francisco, and clays and other materials are to be brought from England, by ship through the Panama canal.

California pottery clays, flint and feldspar are such as are not available in Ohio, and will be used by the new pottery plant in time, declares Mr. Knowles. However, he does not plan to use the local pottery clays until after the business is established on a firm foundation, during which time English materials will be used.

Adobe brick will soon be manufactured on a large scale at Eagle Rock City, in the Southern part of the state, according to Harley S. Bradley, Los Angeles architectural designer. Theodore S. Sylertson and other Pasadena men are understood to be interested in the project, and a large modern plant is to be built.

Keylock Adobe Brick will be the name of the product, and an effort will be made to popularize adobe for building of residences and other edifices on a large scale, it is said. It is thought that considerable success will attend the manufacture of the adobe brick, and that its use will become popular in the South. A dovetail key in each brick designed to hold plaster firmly in place will be the feature of the new product. Temporary sheds are already under construction and permanent buildings will be erected later. A red adobe deposit said to be nine feet in depth between Glendale and South Pasadena has been acquired by the concern and the

promoters of the company estimate that the cost of finished adobe brick wall will approximate 15 cents per foot.

Harry W. Lobb heads the recently incorporated California Shale Brick and Tile Company, with headquarters in San Francisco. The concern is capitalized at \$400,000.

The Craycroft Brick Company, of Fresno, and the McKnight Fire Brick Company, of Porterville, have been consolidated and the latter concern's plant moved to Fresno. More than 75,000 bricks a day will be manufactured by the combination in addition to building and drain tile, announces Frank J. Craycroft, president of the Craycroft concern. Common, face and fire brick will be manufactured.

Excavation has been commenced on the thirty kilns and masonry work will be started as soon as brick arrives at the California Pottery Co. plant, in Merced, which is to be one of the largest in the state, as announced in the last issue of The Clay-Worker.

In addition to the announced establishment of a pottery plant on San Francisco Bay, and the manufacture of chinaware by Bell and Normile, near Los Angeles on a large scale, another announcement of the month is that chinaware will be manufactured extensively by the Standard Pottery Co., which after considerable laboratory work, has commenced operations on a small scale already in the city of Los Angeles in its half acre plant, which contains about 20,000 square feet of floor space. The company will expand gradually through profits on its own production, announces Walter Lysle, president of the concern.

SUNSET.

San Francisco.

## MEETING OF IOWA CLAYWORKERS.

THE ANNUAL MEETING of the Iowa State Association of Clayworkers is booked for Thursday and Friday, February 24 and 25, at the Chamberlain Hotel, Des Moines, Iowa. An interesting program has been prepared and the business of the convention will be intermingled with pleasure to the extent of a banquet Thursday evening at 6:30 P. M., and an informal ball, which will follow the banquet. Visiting ladies will be entertained at a luncheon Thursday noon and an automobile ride and a matinee at the Orpheum Theatre. The chairman of the local Entertainment Committee, Ralph Tuller, will see to it that visitors are kept busy and happy throughout the convention. For full program or other particulars, address the president, H. S. Vincent, Fort Dodge; treasurer, H. R. Straight, Adel; or master of ceremonies, Ralph Tuller, Des Moines. The first session opens Thursday morning at ten o'clock.

## Arch Protector for Clamp Kilns

A new arrangement for protecting the heads of arches in clamp kilns where stationary head walls are used. With this arrangement it is impossible to have cracked and broken arches.

No altering of arches will be required and can be installed in ten minutes.

One year free trial. For particulars inquire of

Fred Gleckler      Oak Harbor, Ohio



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## Why Do You Blanket Your Auto Radiator in Zero Weather?

The first thing a careful motorist usually does after he stops his engine on a zero night is to blanket the radiator. Unknowingly he does that for the same reason that the carefully thinking engineer blankets his ceramic kilns with SIL-O-CEL—namely to prevent heat radiation.

Insulation of kilns with SIL-O-CEL prevents the escape of 60 to 70% of the heat which ordinarily goes to waste. It keeps the maximum amount of heat, evenly distributed, at work inside the kilns. SIL-O-CEL prevents the formation of cool spots which cause some pieces to be underburned.

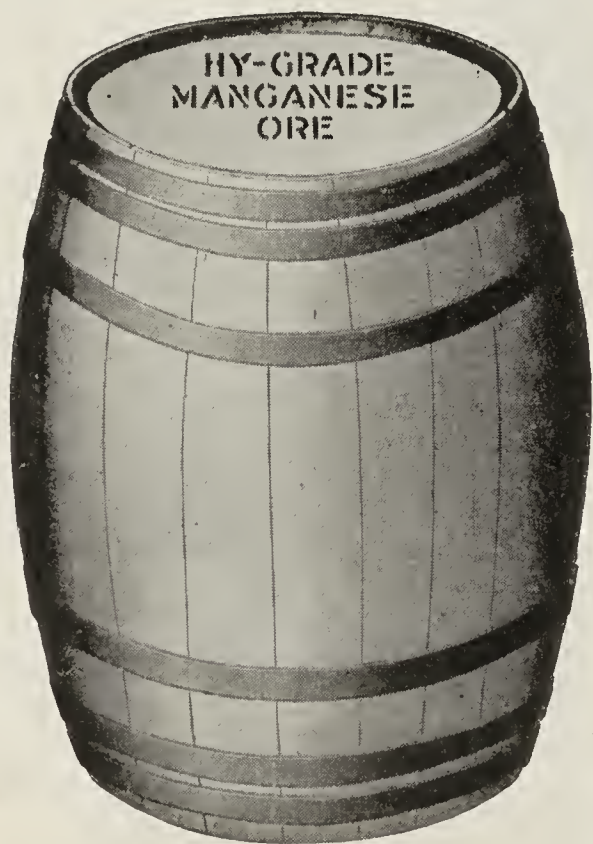
Insulation with SIL-O-CEL has conclusively proven its ability to keep more heat units working out of a certain amount of fuel. It means a more evenly heated kiln with less fuel. Our booklet D.5.A. will give detailed data. Send for a copy.



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PREVENTS HEAT PENETRATION  
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**HY-GRADE MANGANESE CO.**  
**WOODSTOCK, VA.**

Miners  
and  
Grinders

**Especially Prepared  
for Brick Making**

**Sales Office: Charleston, W. Va.**

Written for THE CLAY-WORKER.

CINCINNATI BRICK AND BUILDING NEWS.

SINCE the beginning of the new year there has been some activity noted on the part of the public in this section looking to the fulfillment of the long delayed intention to build. The number of plans that have been in waiting for so many months seems at last to be taking a more definite form. There has been some lowering of prices, and this, together with the fact that prices are more likely to be reduced than advanced, will encourage the prospect to take active measures.

It is a little early to expect very much in the way of active building, but with the coming of March, it seems more than likely that there will be some rather active moves made, and the spring should find the demands for materials in the clay field more notable than for months. This, at least, appears to be the status of the case at this time, and unless all signs fail it will be a realization.

There has been a suggestion made that a paid secretary be appointed by the Cincinnati Chapter of the American Institute of Architects to observe the trend of building material prices, and to have charge of a bureau for draftsmen, and to aid architects. Other matters of interest in connection with the building situation were discussed, and the reelection of the old officers.

A revision of the present building code is to be undertaken and published by the Building Department, as no code has been published since 1913, since which time there have been a number of changes made in the building laws.

The Contracting Bricklayers' Association has signed a contract that will extend until May, 1922, for a continuance of the present wage scale at \$1.25 per hour. There was an effort made to increase this to \$1.50 per hour, when the present, or old contract, would expire in May. This was opposed and the old scale continued.

The Hamilton-Moylan Company, constructors of dwellings, is planning to double its capital, making it a total of \$100,000. Enlarged building plans are to be inaugurated.

M. E. McElhaney, who has been the Cincinnati representative for the Wm. E. Dee Company, of Chicago, has left the company. This territory will be looked after by Mr. W. T. Dee in future. The office will be maintained at 702 St. Paul building.

The F. E. Grand Brick Company has been in a hopeful mood for the coming year. The company has been awarded the contract for the terra cotta for the new Keith theater, now under construction.

The report with the Brick Sales Company, is that there can be a very good year counted on in the matter of construction work. The time is a little early as yet, but the prospects are very hopeful.

The Evans Builders' Company note that there is not very much demand for clay products now, but the season is a little early and there is not a great deal to count on at this time.

The reports at the office of the D. C. Shorey Brick Company are to the effect that the indications now look more promising.

While there is not much actual work being given out as yet, the number of inquiries being noted by the Cincinnati Clay Products and Supply Company gives promise of a very much better year for building than was the case last year. The brick and clay outlook is therefore more promising at this time than it has been.

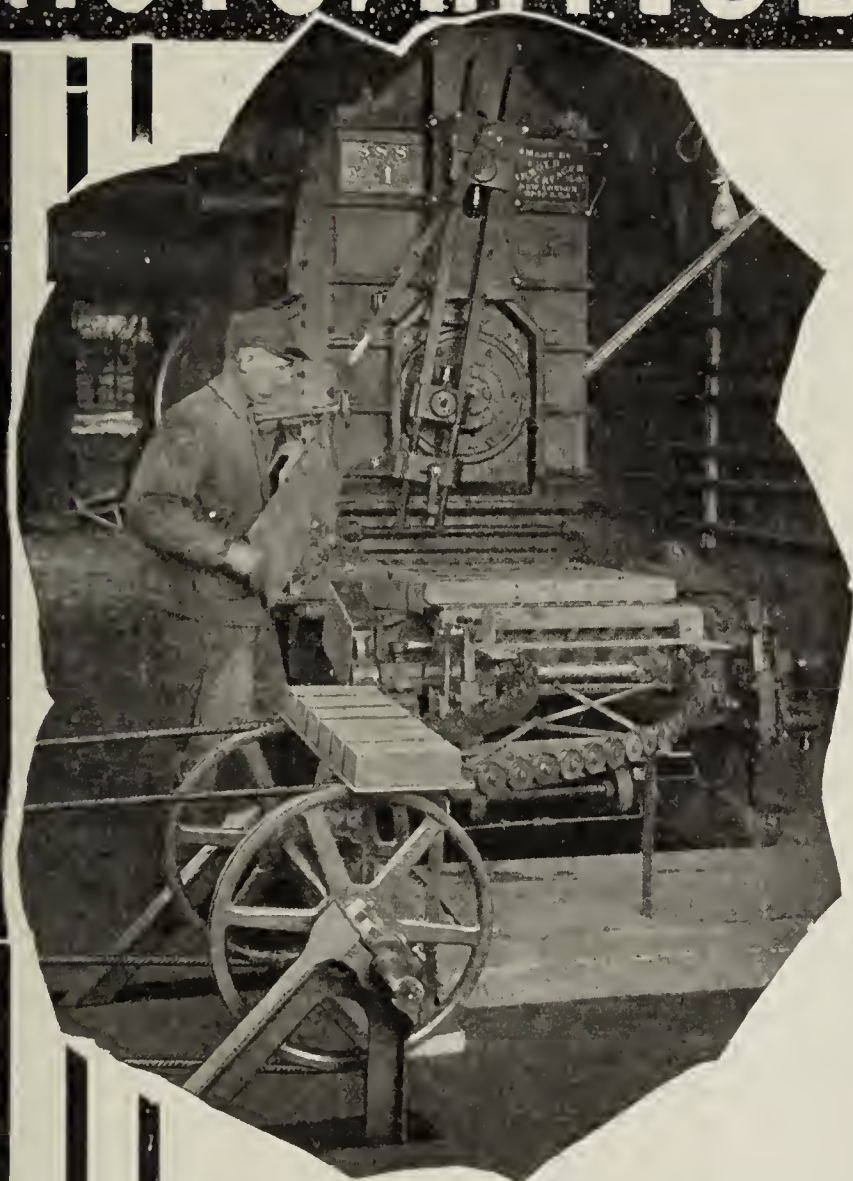
There has been little of any note transpired at the Purcell Brick Company as yet. There is not much to be counted on for a time, and there can be little expected until the weather is more springlike.

Charles T. Bliss, who was formerly manager of the Evans Builders Company, Cincinnati branch, has become identified with the Thompson-Armstrong Company, and is a traveling representative for the company. The report here is that the present demand for clay material is slow, and that it is likely to be some time before conditions improve very much in this way.

CINCY.



# ARNOLD-CREAGER AUTOMATIC BRICK MACHINE



## ARNOLD-CREAGER AUTOMATIC BRICK MACHINE

40,000 Daily Capacity,  
36 inch press box,  
6 bricks to the mold.

60,000 Daily Capacity,  
42 inch press box,  
7 bricks to the mold.

120,000 Daily Capacity,  
One large double shaft  
pug mill and duplex 42  
inch press box.

## Arnold-Creager Brick Machines

S. S. S. Special Automatic.

S. S. S. Standard Horizontal.

Grand Automatic Junior Horizontal.

Grand Automatic Senior Upright Stock.

"Favorite" Upright Stock, Steam and  
Animal Power.

## Martin Brick Machines

Style "A" Upright Stock.

Style "B" Upright Stock, Steam and  
Animal Power.

For Common Brick  
and  
Fire Brick Plants.

Complete Line of Supplies for  
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Send today for our complete  
100 PAGE CATALOG  
Arnold-Creager and Martin Brick  
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## A Few Users.

C. H. Klein Brick Co., Chaska, Minn.  
Baltimore Brick Co., Baltimore, Md.  
First Ave. Brick and Tile Co., Evansville, Ind.  
Hinde Brick and Tile Co., Sandusky, Ohio.,  
Burroughs & Mankin, Richmond, Va.  
Builders Brick Mfg. Co., Hooper, Neb.  
James Cornhill & Sons, Chatham, Ontario, Can.  
A. F. Smith Co., New Brighton, Pa.  
Salem Brick Co., Salem, Va.  
Welsh-Bright Company, Monaca, Pa.  
Wisconsin Red Pressed Brick Co., Menomonie, Wis.  
James B. Oberly, Wilmington, Del.  
Remillard Brick Company, Pleasanton, Cal.  
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Jova Brick Works, Roseton, New York.

Brick Machinery Department.

James P. Martin, Manager

# Lancaster Iron Works Inc.

## Lancaster Pa.

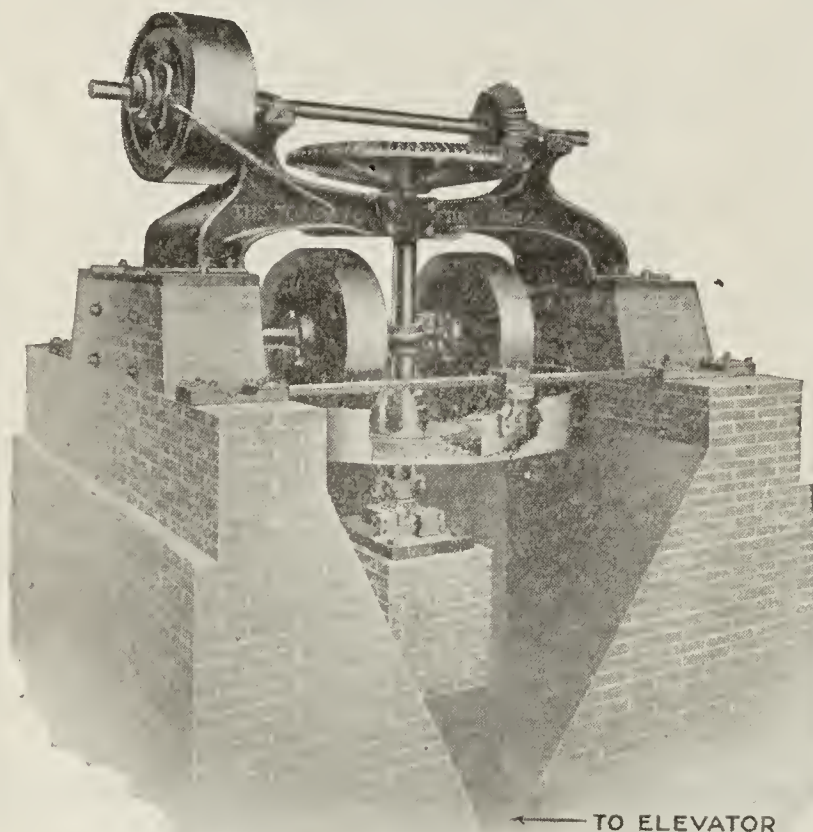




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Transfer and Dump Cars, Turntables,  
Switches and Trackage.**

**The Chase Foundry & Mfg. Co., Columbus, O.**



Type A or Standard Dry Pan, With Hopper Foundation.

Greater efficiency for the machine, with less power  
consumption, is obtained by this installation.

Write for prices.

**The Toronto Foundry and Machine Co.**  
Toronto, Ohio

Written for THE CLAY-WORKER.

# BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.

**B**UILDING OPERATIONS in Evansville and southern Indiana towns have not been active for the past several months, but it is believed that there will be marked improvement by the first of March. While no great boom in building is looked for this year, there will be considerable construction work in the towns in this section unless all indications fail. A building corporation was incorporated a few days ago at Cannelton, Ind., with a capital stock of \$100,000, and the company will erect a number of homes in that city during the coming spring and summer.

Fire a few days ago damaged the Uhl pottery, at the corner of Canal Street and Kentucky Avenue, Evansville. The fire was caused by a tile flue getting too hot. The damage was slight.

John Andres, secretary and treasurer of the Standard Brick Manufacturing Company, and a member of the city water works board, at Evansville, has been elected treasurer of the Evansville Manufacturers' Association, to serve the ensuing year. The local association has gone on record as favoring the tax bill in the state legislature, which provides for public voting on bond issues. Mr. Andres recently attended the meeting of the National Manufacturers' Association in Chicago.

Clifford Ahlemeyer, 37 years old, a foreman for the Hydraulic Press Brick Works, at Brazil, Ind., died at his home in Brazil a few days ago, after a brief illness. He is survived by his wife, one son and his mother.

Michael D. Helfrich, head of one of the large potteries at Evansville, is at the head of the Helfrich Lumber and Manufacturing Company, in that city, which has built a modern saw mill, which will be ready for operation within a short time. Mr. Helfrich has purchased a number of large timber tracts in Kentucky and Tennessee during the last two years which will furnish enough logs for his new mill for several years to come.

The Standard Brick Manufacturing Company at Evansville during the past month has made several shipments of brick to Trezevant, Tenn., to be used in the construction of a new station for the Louisville & Nashville Railroad Company at that place.

Henry C. Kleymeyer, president and general manager of the Standard Brick Manufacturing Company and president of the Evansville Chamber of Commerce, was in Louisville, Ky., recently in the interest of his company. Mr. Kleymeyer attended the annual convention of the National Brick Manufacturers' Association and took Mrs. Kleymeyer with him. As president of the Evansville Chamber of Commerce, Mr. Kleymeyer has a big program for the ensuing year and his friends are predicting that he will make the best president that the Chamber of Commerce has ever had. He is a man of broad vision and has splendid executive ability, which he will bring to bear in the new duties that he is called upon to exercise. Mr. Kleymeyer is expecting to have closer co-operation with the city administration at Evansville that past presidents of the Chamber of Commerce did not have.

The Building Trades Council of Evansville held a meeting a few days ago and passed resolutions against any reduction in wages during the coming year, in line with the recent suggestion of the American Federation of Labor. It had been expected that labor would be willing to bear its share of the present business depression and would be willing, too, to its full part in bringing business back to a normal state, and the action of the Building Trades Council came as a surprise to the contractors of Evansville.

A HOOSIER.



Written for THE CLAY-WORKER.

NEWS NOTES FROM DIXIELAND.

**F**EBRUARY finds conditions in the building, brick and clay products trade more promising than last month. It seems after all there will be little winter in the central South, and if this be true, spring building will start that much sooner. Local architects and contractors at Memphis, Nashville, Chattanooga, and other points are preparing for activity and supply houses are making very optimistic reports. The several large brick manufacturing plants in different parts of Memphis are active and the lull and falling off in building last year promises to be conspicuous by its absence in 1921.

The B. Mifflin Hood Company, of Atlanta, Ga., recently opened an important branch for their sales department in brick materials on the third floor of the Scimitar Building, corner Third and Madison Avenue. It is said that since the Scimitar moved out of this structure, that it will be somewhat remodeled and perhaps called the Madison Avenue Building, when this work is completed.

Moss-Devoy Brick Company, office 82 S. Front Street, Memphis, are active with their common brick plant in the north part of the city. The plant was remodeled last fall.

The Herbert-Fischer Brick Company, in South Memphis, have completed their extensive additions and improvements, and will be operating in a big way on common brick this year.

The new warehouse and office addition of the Fischer Lime and Cement Company, on Walnut Street, will be completed early in the spring. This will give these people one of the handsomest structures in the South, their present home being very large and the addition taking them practically through the block. The exterior shows much fine terra cotta work and is in conformity in general outline to present structure.

Much fine white tile and terra cotta work figure in the new Pantages Theatre, on Main Street, near Monroe, the Memphis Brick Supply Company, Goodwyn Institute, furnishing this material for the structure. The theatre will be opened within a few weeks.

Wilbur A. Nelson, state geologist of Tennessee, who has done a great deal for the clay and general industrial interests of Tennessee, was elected secretary of the Association of American State Geologists, at their annual meeting held in Chicago a few weeks ago. This association is the official organization of the different United States surveys and Canadian surveys. The secretary of the organization has active charge of this society's work in general mapping problems, which effect more than one state. It is also gratifying to Southerners that Dr. Geo. H. Ashley, former state geologist of Tennessee, was elected president of this organization for the coming year.

F. R. Thomas Clay Products Company, Central Bank Building, Memphis, is doing a car lot business in the wholesale trade on clay products of various kinds, and reports spring activities showing a good outlook, they have been busy all winter finishing up last year's contracts, in this branch of industries business being very good last year.

DIXIE.

DEATH OF B. H. ALBEE.

It is with much regret that we chronicle the death of our New Jersey scribe, Mr. B. H. Albee, which occurred at his home in Paterson, N. J., February 11, after an illness of several weeks. He had been a faithful representative of The Clay-Worker for many years. The work which he has done so well will be continued by his son who, like his father, is well qualified for the duties involved. We bespeak for him the same kindly consideration which has been extended to his father by those in the clay industries with whom he will be associated.

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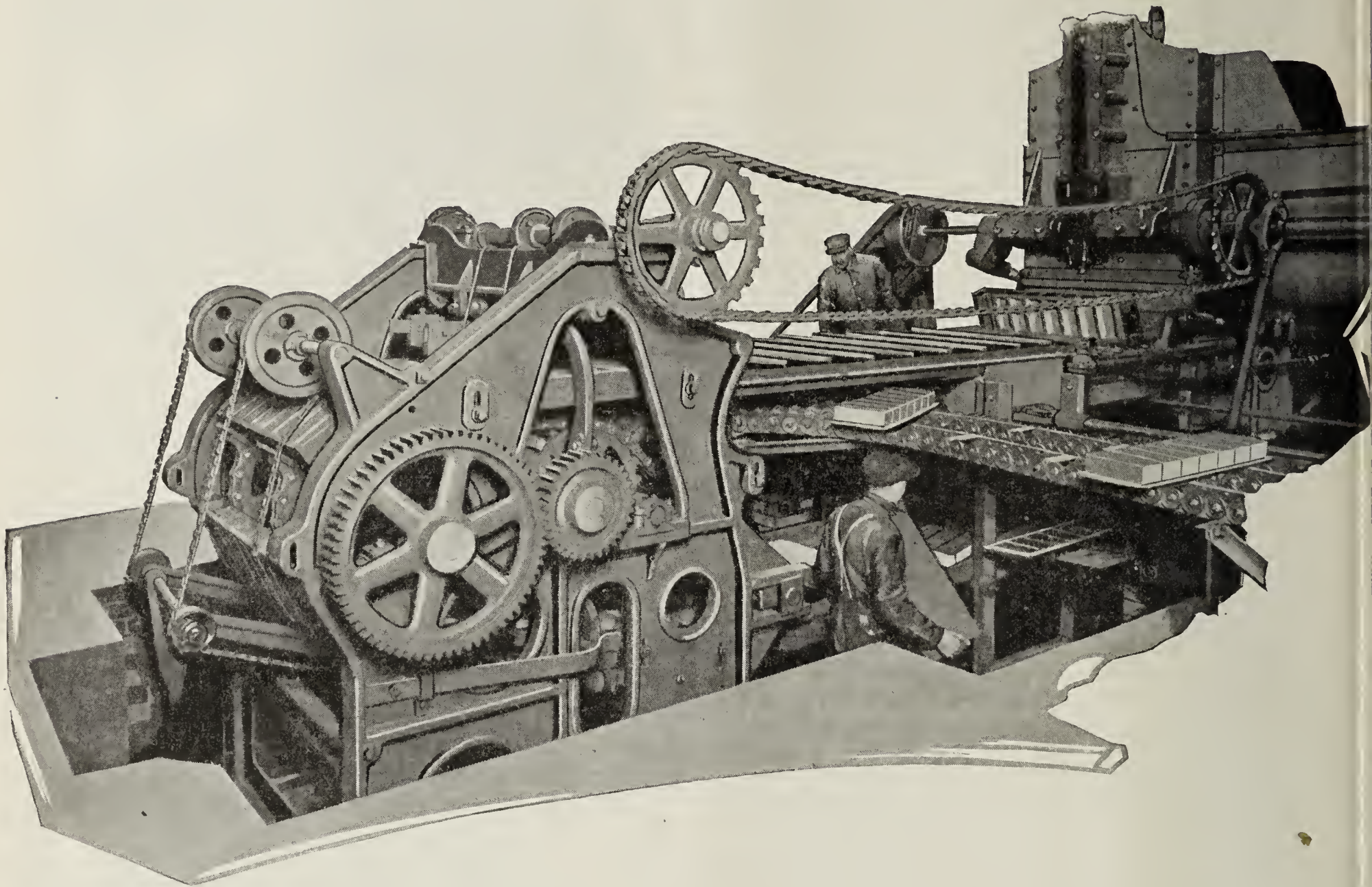
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# ANNOUNCING

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# THE CLAY-WORKER

THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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No. 3



## OFFICIAL REPORT OF THIRTY-FIFTH ANNUAL CONVENTION OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION, NEW YORK, FEBRUARY 1 to 4, 1921.\*

### Second Session.

Wednesday, 1:00 P. M., February 2, 1921.

**P**RESIDENT DUNWODY: Gentlemen, we will now take up the regular N. B. M. A. program which fortunately is flexible. That is, one or two of the gentlemen on today's program have not arrived, so we will pass them for the present and hear from Mr. C. P. Oudin, of Spokane, Wash. He has traveled a long distance to attend this convention and I am sure you will give him an attentive hearing. His subject is:

### Brick and Tile Making in the Northwest.

Mr. President and Gentlemen:

It gives me great pleasure to be here with you, coming as I do from the far northwest. We manufacture a variety of clay products, "Fifty-seven Varieties," like the famous Pittsburgh pickle man, this includes sewer pipe, fire brick, hollow tile and common building brick. Our clays are marvelous. We have more known clays probably than Pennsylvania, Ohio or Illinois. The extent of our state is 400 miles wide and 500 miles long. We have a famous river called the Columbia River; running north and south in this Columbia basin are large deposits of red clay, blue clay, fire clay, enabling us to make almost anything in the clay line from table ware to architectural terra cotta and drain tile.

We have in eastern Washington two large clay plants, one the Washington Brick and Lime Co. and the other the American Fire Brick Company, which I represent. The deposits of magnesite in Stevens County in the northern part of the state are the largest ever discovered, and any man here who is a manufacturer of magnesite brick knows our material. It is a material used for refractory purposes and steel furnaces.

We have other things in Washington. The famous apples, for instance, with the famous clays. In the Columbia River basin we are now contemplating putting water on two million acres, at a cost of about \$260,000,000. This is a gigantic water project; it is contemplated that furnishing this water at an expenditure of \$130.00 per acre, we will be able to produce \$140.00 of product per year on each acre. We are asking the government for a revolving fund, to be created so we can borrow a part to put the main canals in, and start the work. This land will produce \$180,000,000 each year in alfalfa, wheat, oats, fruit, etc. It means a population of 600,000 people. It means more towns, more railroads, more jobbing houses, more factories and stores.

The clays that we produce fire brick from are as good as any fire clays in the United States. We supply the Wyoming plants where they are great producers of oil. We supply the coke ovens of Alberta. Our coal comes from Alberta, with a freight rate of \$4.80 to our plant. We also use a Utah and Wyoming coal.

Our population is increasing. One big plant in Spokane now being built to produce electric power that will use 6,000,000 common brick. We are so situated that we have five transcontinental lines, among the principal ones are the Great Northern, the Northern Pacific, the Milwaukee, and the Union Pacific which have also branch lines over which we can supply the outlying country.

In our wonderful country we need more factories, and any man who has a son he wants to get into business, we will welcome him out in our section and help him along. There is a chance for more plants, and wonderful opportunities for every man that will produce or work. I thank you. (Applause.)



Ex-President Fritz Salmen,  
Slidell, La.

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President Dunwody: The discussion of this subject will be lead by another man from the northwest, Mr. Rufus P. Morton, of Princeton, Minn.

#### General Discussion.

Rufus P. Morton, Princeton, Minn.: We are not quite so far west as Mr. Oudin. We usually say we are in the west, not the northwest. Minnesota does not loom as large in clay products as many of the other states. I consider myself rather a small manufacturer, as I only have a small plant about fifty miles from the Twin Cities. The brick business with us at present is rather quiet, but I anticipate a fair business the coming season. Of course, I could go into details as to the resources of our great state, the "Bread and Butter" state, and I guess we lead in those products. All I wish to say is that personally, and the same is true with the brick men with whom I have consulted, I anticipate a fair business this coming season. There is not a great deal of large work in prospect, but there are a good many small ones, such as school houses. I never have seen so many school houses prospected in any year as at present in Minnesota. I think brick manufacturers will



Rufus P. Morton, Princeton, Minn.

have better business, more like pre-war times, though possibly not quite as brisk. With me, 1920 was not a very good year. (Applause.)

President Dunwody: A great many of the states and counties are doing a great deal of this school house work in order to furnish employment to the unemployed at present. What is next on the program, Mr. Secretary?

Secretary Randall: Going back to the first part of our program for today, the first number I think would have been exceedingly interesting, "Solving the Labor Problem," by Mr. Richard Waldo, of New York. He was ill the latter part of last week, and if he is able we can hear from him later in the week. I think under the circumstances if there is no other business that any of you want to bring up at this time, I think it will be in order to take up the work of this session tomorrow morning. Friday will be a big day, and some of the features of Thursday's program will be exceedingly interesting and instructive. I hope none of you will get in a hurry to go home because if you miss the Friday session, you will regret it.

D. Knickerbacker Boyd, Philadelphia, Pa.: Mr. Chairman, I hope all the members here will be present tomorrow when

the question comes up, "The Bricklayer and the Apprentice." I believe none of us realize the importance of that subject. The gentleman from the west exhibited a fine spirit in inviting other brick men to come west and settle in his part of the country, but no matter how many brick you manufacture if you cannot get the men to lay these brick and lay them well, you are going to fall down. That is one of the most important things that will come up.

President Dunwody: I trust you will all attend that session. I believe a motion to adjourn is in order.

Warren Griffiss, Baltimore: I move we adjourn.  
Seconded and carried.

#### Third Session.

Thursday, 10:00 A. M., February 3, 1921.

President Dunwody: Gentlemen, the convention will come to order. Glad to see so many of you on hand this morning. Mr. Secretary, what is the first order of business?

Secretary Randall: You will remember we gave way largely yesterday to the C. B. M. A. in order that they might finish their morning program, so we have some left overs from yesterday's program. Think it would be well at this time to read a paper from one of our younger members, Robert Twells, Jr., the son of one of our old time and faithful members, on "Handling and Shipping of Brick." Mr. Twells is not here, but he has sent his paper, which I will read for him.

#### THE HANDLING AND SHIPPING OF BRICK.

BY ROBERT TWELLS, JR., SCHENECTADY, N. Y.

*Mr. President and Gentlemen of the Convention:*

When a kiln has cooled enough to have the door knocked down, the superintendent usually comes around to see whether it was a good burn. If the benches stand straight, and the bricks show a rich color, he congratulates himself on having secured a fine kiln of brick. That much of the fight to make good brick is indeed won, but the battle is not yet over. Between the full kiln of brick and the job, there lies one of the most difficult and least appreciated parts of brickmaking. It is too often the case that brick are made properly and burned correctly, only to be ruined by improper methods between the kiln and the bricklayer. There has been a great tendency in the past three years for face brick manufacturers to handle their brick roughly and to sort them carelessly because they know that the customer would still be glad to buy them at any price. Now that conditions are returning to normal and competition is again becoming keen, the need for a better product is very apparent. The purpose of this article is to point out some of the common faults in the handling of brick, and to describe some methods which have proved successful in actual use.

It is assumed that the shipping conditions which must be met are those of a typical face brick plant making about equal quantities of common and rough texture face brick. Down draft kilns are most commonly used. The lower halves of the kilns are set with about twelve courses of common brick on edge; the upper halves of the kilns are set with face brick on the flat. This method of setting eliminates any possibility of underburned face brick, and lessens the range of colors between the upper and lower courses. It is moreover necessary to set the lower courses on edge since the weight of the brick above would tend to squeeze brick set flat out of shape. The face brick are usually flashed to a variety of colors, reds, browns, or blacks, as the case may be. It is assumed that the burns are good, and that the common brick are hard-burned to within about four courses of the bottom. The chief method of transporting the burned brick in plants of this type is the much-maligned but almost indispensable wheelbarrow.

There are two methods which might be used in unloading the kilns: (1) The common and face brick may be removed together, (2) The face brick may be entirely removed first before any of the common brick are taken out. In the former case the usual procedure is to back the wheelbarrows into the door of the kiln. One man stands on the common brick and tosses them down to a man who puts them on the wheelbarrow. When two benches of common brick are bared, one of the benches is wheeled out directly. The chief fault with this method lies in the difficulty of making the men handle the brick properly. It is so much easier to handle the brick roughly. Unless the foreman is ex-



tremely watchful, he will find that the men are breaking the brick apart by dropping them on the faces of the course below them or the wheelbarrow. Part of the brick will not be broken loose at all, and will go to the car in that way. It is, moreover, impossible to do more than pick out the culls by this method, for the work will be done inside of the kiln, where the light is poor. There are also too many men engaged in sorting the brick. Each will have his individual ideas as to how the work is to be done. Some of them will take no interest in that part of the work. The result is that the brick are sorted very irregularly.

The method of removing the whole upper half of the kiln before any of the commons are wheeled out, is a much better way. Several schemes are used. In some plants it is customary to take out enough brick near the door to allow an incline of stout planks to be laid up to the top of the common brick. The wheelbarrows are then backed up the incline, and are loaded with face brick at the higher level. All the objections that were made to the former method are made also to this one. The brick, however, are less liable to be chipped, since they are handled less often. The rate of loading is proportionately quicker.

One plan that gives good results is described as follows: A gravity conveyor is placed in the kiln at the level of the top of the commons. The face brick are broken loose in the kiln and are rolled down this four abreast. One man stands at the end of the conveyor and sorts the brick. More uniformity in sorting may be expected than in the other methods, since there is only one man sorting to a kiln. If there are only four grades, the shader can load them directly on wheelbarrows, otherwise a board must be set up and the different shades laid in piles on the board. Two to three men in the kiln, one shader, and two to three wheelers form a good gang. This plan works very well. It is easy for the foreman to glance at the brick coming from the kiln and tell whether the men inside are handling them properly. These men should be made to lay the brick face down and tap them on their backs with a hammer. No hitting of the faces or throwing down of the benches. The brick should be laid face up on the conveyor. The brick shader should be an especially quick reliable man. He should be paid more than the others, and he should be in charge of them. With a system such as this, good shading and careful handling may be secured even at piecework.

After the face brick have been removed, the commons may be wheeled out directly. The only precaution is to sort out the brick that are too soft to stand the weather, unless the brick are sold as kiln-run. The best way to sort out the salmon brick is for the foreman to examine carefully the bottom courses of the kiln and to make up his mind how low it is safe to go. He may then designate the number of courses that are to be wheeled out as hard brick and the number of lower courses that are to be wheeled out as salmon brick.

When the brick are loaded directly on cars, it is, of course, much cheaper. The foreman usually tries to plan his work so as to make as little yarding of the brick as possible. To do this it is necessary to plan ahead for some time in regard to the kilns to be unloaded, and the orders to be filled. It is of great importance that the cars are properly placed so as to eliminate the long wheels. A little forethought can save a great deal of work for the men. The cars to hold the bulk of the brick for a kiln should be placed as near the kiln door as possible, the cars for less common shades may be placed farther away. Box cars are, of course, best if they can be secured.

The proper packing of brick in the car requires considerable care. Face brick should be packed in straw. Two courses should be filled at a time so that the straw will stay on the brick better. It is very important that the door of a face brick car be neatly finished out. The height of the courses should be calculated in such a way that the brick will be evenly distributed over the floor of the car. The doors should be finished out by packing the courses in at right angles to the courses in the ends. The brick should never be left in such a way that they will be knocked down when the engine hits the car. Every effort should be made to make the door of a car look attractive. The buyer usually looks chiefly at the brick in the doorway. A bad impression is easily given if the brick are poorly arranged. Of course, the whole car of brick should be of good quality, but it would save many cars of rejected brick if a little more advertising psychology were used. Common brick need not be piled in the car so carefully; however, the practise of piling the brick high in the ends and of finishing out the doors by dumping the brick on the floor, is a poor business policy.

The method of piling the brick on the yard is important. Two or three large piles of each shade are preferable to many scattering piles. The more important shades should receive the most central places. Even when trade is brisk and orders are plentiful, such brick as are piled on the yard should be piled as though

they were expected to remain for a long time. It is worth while to level off the ground and build a good straight haek. It sets off the appearance of a yard wonderfully. All piles should be run up to a uniform height of about eighteen courses. The ends of the piles should be made carefully. Two brick should be laid flat, one on top of the other, at each end of the first course; then three brick should be laid crosswise on these. This makes the end of the haek slope in and prevents the end from falling down.

The amount of shading of the brick is largely dependent on the whims of the architects. It is well to avoid as many shades as possible. The architects are beginning to realize that a polychrome effect is prettier, and easier to secure than a single shade. It is usually close enough where brick of one shade are wanted, merely. Pick out the culls and the brick that are either extremely light or dark in color. Where mixtures of blacks, browns, and reds are wanted, it is a good plan to mix the brick by having the men load so many courses on their wheelbarrows from one kiln and so many from another kiln or pile. With a little ingenuity this can usually be done with little additional work. In the case of the common brick it always pays to be careful as to whether the brick are hard burned. If there is any doubt in the matter, the brick should be sorted out and sent to an inside job. If an order calls for kiln-run commons, enough hard-burned brick should be sent to form a face. It is a very poor policy to send salmon brick to a job where hard-burned brick should be used, just because the buyer will accept them. The brick manufacturer should use every means to induce the



Ex-President George H. Clippert, Detroit, Mich.

builder to handle the brick as they should be handled, and to lay them properly. It often happens that the manufacturer handles the brick properly, only to find that the contractor is allowing them to be dumped out of a truck or is laying salmon brick in the face. Such things are very much the business of the brick manufacturer, since they can only result in the giving of the whole brick business a bad reputation.

(Applause.)

President Dunwody: This is a very important subject, the discussion of which is to be led by Mr. John P. Cahoon of Salt Lake City.

#### Handling Brick in Utah.

John P. Cahoon: I can only give you an idea of how we handle them at our works. I was much interested in the way he spoke of piling the brick, leveling the ground carefully, and piling the brick across. We have an eight-inch plank we put down first and pile the brick on that; the plank prevents the moisture from entering the brick. Going into the delivery of brick; to my mind that is very important. I have tried every way of delivering the brick to the job outside of shipping them in the bulk. Some years ago we considered that. We used to deliver the brick by team and wagons, where it would take 800 to 1,000 brick to the load.



Every year during that period we were compelled to lose some on every year's delivery. That is to say, the brick cost us more to deliver than we received for the delivery. We lost any where from \$4,000 to \$5,000 a year. We studied quite a little and finally worked a single team and two wagons, one good driver could drive five horses. In that way we delivered the brick better and were able to get as much out of the delivery as it cost us. Afterward we went to the trucks. Our average distance to haul our brick is about eight miles—some place, say, two miles—and at the present time we are using trucks where they take 5,000 brick at a time, and in that way we have been able to see a profit in the delivery of the brick. I think this handling of brick is a very important subject.

Secretary Randall: I thought perhaps Mr. Cahoon would tell us a little incident of unusual interest. In fact, it was rather remarkable. He shipped an entire order of face brick by parcel post last summer. An entire order for the front of a building.

Mr. Cahoon: There were two different jobs. They were very anxious for the brick and wrote us to try and get them shipped in some way, for there was a tie-up on the railroad. Finally we found we could get them through by parcel post. We shipped 10,000 to one job and 5,000 to another. Each



John P. Cahoon, Salt Lake City, Utah.

brick was wrapped in paper and then packed in crates of ten brick each, the crates were made of light strips of wood. It cost us in the neighborhood of \$70.00 to \$80.00 a thousand delivered at Vernal, where the buildings were being constructed, but that was the cheapest way.

President Dunwody: There is one thing in this proposition of loading brick to be met in the difficulties under which the brick men operate. When you have claims for shortage, if you have a definite system of loading brick and make a report, when the man comes in for his claims, you can say positively whether he is right, if you are. We have to use a lot of diplomacy but it is a mighty good feeling to be able to know exactly where you are in the case, and if you are in a position to give the man definite information and say just how the brick were loaded.

Charles P. Oudin, Spokane: In regard to loading fire brick into the cars, we have devised a platform leading from wharf into the body of the car, with a center section. The wheelbarrows have an indicator, and we know how many wheelbarrows can be loaded in the car.

Henry B. Loveland, Jewettville, N. Y.: Some way or another, I think some one spoke to us about it, or we got the idea in our heads, but finally between them we got our discovery. We have a way of getting into the car and count-

ing the brick so that we know absolutely how many brick there are in the car.

President Dunwody: Then you, sir, are just the man we want to hear from.

Mr. Loveland: We start in and load 400 brick in the first course and let it stop there. We will put say ten courses high, and maybe half a course or two-thirds on top. One-third course will have 30 brick, and it will come out the same every course. There will be four of these. If there are 20 courses in an ordinary freight car, four times four is sixteen, and you can count from the door way, and you can get up in the car and know exactly how many brick are in it. (Applause.)

President Dunwody: Thank you, sir. What is next Mr. Randall?

Secretary Randall: I think we may well take up the regular morning program. The first number is by a gentleman well known to a good many, Prof. Ira H. Woolson, of the National Board of Fire Underwriters, who will talk on a New Ordinance for Proper Construction of Chimneys.

#### "REMARKS UPON A NEW ORDINANCE FOR PROPER CONSTRUCTION OF CHIMNEYS."

By Professor Ira H. Woolson, New York City, N. Y.

Mr. Chairman and Gentlemen of the Convention:—

I thought when I heard the gentlemen speaking about shipping 10,000 bricks by parcel post that he must be a very unpopular man with the postal employes on that line. How he escaped a burn out I don't understand.

Mr. Randall wrote me he thought your organization would approve of the chimney ordinance which has been proposed by the National Board of Fire Underwriters. It may not be perfect, there are a good many things which have been changed in a tentative way, most of them of minor importance.

We advocate very strongly that all flues shall be lined, not only to make better fire protection, but because of better draft conditions which ensues from lined chimneys. Some are inclined to think a round flue is better than a square flue. I was much interested in a discussion that came up in a conference on that subject. One gentleman present made the statement that, in his opinion, a round flue was undoubtedly best, and another gentleman stated that a round flue of the same diameter as the dimensions of a square flue was, in his judgment, no better than the square flue. The manufacturer of flue linings seem to favor the square or rectangular flue. Of course there should be limitations as to the narrowness of the flue to get a good draft; but a rectangular flue fits better into the walls of a building. I think it will be a long time before we begin to build round chimneys, except for power plants. In order to secure a perfectly good draft you must not have leakage between the flue and the chimney walls, and, therefore, we require that space to be filled with mortar, and if the chimney fits close it will require less mortar.

Among the known and strictly preventable causes of fires defective chimneys and flues stand third on the list as productive of the greatest fire loss, with a record of \$70,800,000 for the last five years, or an average of \$14,000,000 per year. These figures are based upon the compilations of fire loss data and cover an analysis of three and a half million fire loss adjustment reports. The actual figure obtained for this loss was \$56,000,000, but to this must be added 25 per cent as a conservative estimate of the destruction from unreported fires and those occurring in uninsured properties, or in properties covered by the many small mutual companies scattered throughout the United States which do not report to the Actuarial Bureau of the National Board of Fire Underwriters.

Brick manufacturers and masons have an almost complete monopoly upon the construction of chimneys. Large chimneys for power service are frequently built of metal or concrete and the latter material is occasionally used for chimneys in buildings, but brick is by all odds the most prevalent material for such construction.

Every time a brick building burns, no matter from what



cause, it is a discredit to your business and a contradiction to your claims that brick buildings have greater fire resistance than wooden buildings. If it burns because of a defective brick chimney it should give you an added humiliation.

There are twenty odd thousand fires a year in the United States due to defective chimneys and every one of them that results from a brick chimney is a reflection upon that type of construction. This is one of the reasons why I wish to enlist your interest in a model chimney ordinance which is being promulgated by the National Board of Fire Underwriters as a remedy for the enormous annual fire loss due to defective chimneys.

Another reason why I want to get your support of this ordinance is because I know you are practical business men with a keen sense of the value of efficiency in public as well as private affairs. We are burning up in this country \$300,000,000 worth of property every year and in round numbers \$14,000,000 of this results from defective chimneys.

You know full well that that is a terrific economic waste. It is thriftlessness exaggerated to the Nth degree. If we keep it up as a nation we "ride to a fall." Your business sense tells you it should be stopped. You can render great assistance in stopping the portion of this great loss due to defective chimneys, and the National Board of Fire Underwriters wants your aid.

All these arguments thus far have been based upon the iniquity of burning up buildings and contents, but the life hazard in burning buildings is high. We are constantly reading in the papers of lives lost in burning dwellings by the inmates being trapped in some way and unable to escape. Every time that a defective chimney starts a fire it creates a potential life hazard as well as a potential conflagration hazard if it is located in a congested area.

I told you in my talk yesterday that there were twenty thousand people burned to death in this country every year. Although statistics upon this subject are fragmentary it is generally believed that these figures are conservative and that really the number of lives is greater rather than less than that number. A large proportion of these lives are lost in ordinary dwellings, just the types of buildings to which this chimney ordinance particularly applies, and, although properly constructed chimneys would by no means reduce all the fire loss in dwellings, it certainly would make a very considerable reduction in it.

And this brings me to my third reason for seeking your cooperation in getting this ordinance generally adopted. I know you are red blooded men with sympathy and compassion in your hearts. You, therefore, can not contemplate with indifference the frightful loss of life due to fire. I am sure you will wish to do your part to abate this terrible annual holocaust. The majority of chimney fires occur in dwellings and the additional cost over ordinary practice of building a really safe chimney in the average dwelling will not exceed fifteen to twenty dollars. Twenty-five dollars would cover practically any ordinary chimney.

This is why chimney fires are classed as strictly preventable.

Mr. Chairman, it would be gratifying to me if some member of your organization would think well enough of this ordinance and what we are trying to do to move its adoption or endorsement. We are doing this more in the interest of the people who live in the buildings than for the insurance companies. You know the ordinary owner very seldom carries insurance sufficient to cover the dwelling and contents. An endorsement from such an organization as yours would carry weight. By approving the ordinance with the changes suggested, and having the members pledge themselves to urge its adoption in their own communities, I really think your organization would do a great deal of good.

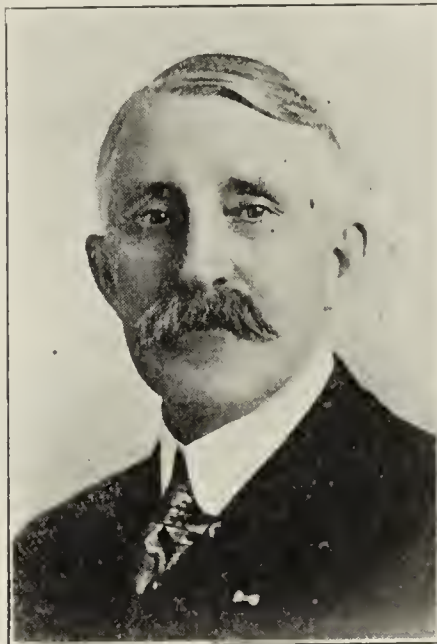
(The revised Chimney Ordinance will be issued in pamphlet form later, and copy sent to each member of N. B. M. A.)

President Dunwody: I am sure that all of us who have given this subject any thought, and most of us have, are struck with wonder at the lack of interest which the people of this country display, the total lack of interest, apparently, in the loss of life and property in this country due to fire. All of Professor Woolson's suggestions are very good, and, while it is not customary for the chair to do so, I think I am safe in recommending that we adopt this resolution endorsing this ordinance.

Warren Griffiss: I move, Mr. President, that we adopt a resolution endorsing this chimney ordinance proposed by Professor Woolson. I am prepared to prepare and introduce such a resolution.

Joseph T. Bryne, Philadelphia: I second the motion.

J. C. Robinson, Hampton, Va.: Mr. Robinson, I happen to be a manufacturer of brick and flue linings. I hardly approve of everything in this ordinance, and that is the one word "fire clay." I would like to see substituted "burned clay" instead of "fire clay." We have only lately started the manufacture of flue linings at our brick plant and we have been getting a good many orders in our section. We can furnish flue linings of our burned clay for nearly one-half what the fire clay linings cost, which come from away. We have to pay a very high freight rate on all the material which comes into our section. I think the burned clay makes as good a material as the fire clay. Every one in the business knows fire clay is much better than burned clay, but it is not necessary to use it for flue linings. Fire clay takes from 2200 degrees up. Why is it necessary to have the flue linings that will withstand 2200 degrees, when 1800 degrees will prove amply sufficient to resist any heat that may be in any ordinary chimney. I think burned brick clay makes just as good flue linings for any chimney in ninety-nine cases out of one hundred as fire clay. There are times when high temperatures go into a chimney that requires fire clay, but in ninety-nine cases out of one hundred the brick clay flue lining will serve just as good as a fire clay. There will be more chimneys lined with brick clay than with fire clay,



Ira H. Woolson, New York, N. Y.

and I hope it will be the sense of this convention that the ordinance be amended in this particular.

Mr. Woolson: I am inclined to think that the speaker is a little bit off in regard to fire clay. I do not know his clay, it may be all right. His particular clay may make a flue lining equally as good as fire clay flue lining, but I do know this, that the tile manufacturers here in this part of the country have manufactured many flue linings which have proved unsatisfactory, and we find many chimneys lined with sewer pipe that are not satisfactory. Such material is not suited to stand the expansion and contraction constantly occurring, due to the temperature conditions. Though you may have a very low temperature part of the time, there are times when it gets pretty hot, especially when starting furnace fires with wood and when the chimney is lined with soot and you burn that out. We consulted the tile manufacturers here in the East about using the term fire clay and they were perfectly satisfied that term should be used, although they had no fire clay to manufacture such linings, but said they could get a material which mixed with their clay makes it satisfactory. We hold no brief for fire clay. We do not care what you make the tile out of, so it will stand. I consulted the engineer of one of the large tile manufacturing organizations and he told me it was perfectly proper to use the term fire clay because any manufacturer could use a mixture which would approximate the fire clay of the middle West.



Professor Charles F. Binns: I am afraid we shall get into a confusion of definition of terms. Professor Woolson has stated if a material will answer certain tests it will be accepted. You know there are fire clays of all sorts, No. 1 and No. 2 and so on. A fire clay is a very wide term of definition. If it is admitted that any clay mixed with another substance may be substituted for fire clay what is to become of the fire clay definition? It is disturbed. Then, too, the property of expansion is not the exclusive property of fire clay, so I think before any amendment is adopted or before that word is fixed in the ordinance we should know what we are talking about.

President Dunwody: With the consent of the man who made the motion, I suggest that we enter into a discussion of the paper to be led by Mr. Wentworth, of Boston. After we have heard from him we can take up the endorsement of the ordinance.

#### America's Disgraceful Fire Loss.

Franklin H. Wentworth, Boston, Mass.: Mr. Chairman and gentlemen, the engineering aspect of this problem presented so clearly by Professor Woolson, as he always presents engineering topics, I do not intend to discuss. The ordinance speaks for itself. The thing that impressed me was what impressed your president. The astounding figures which Prof. Woolson quotes—20,000 fires a year from defective chimneys, \$14,000,000 per year addition to America's ash heap. What a commentary on the American people, this. How absolutely



Ex-President William Conway, Philadelphia, Pa.

devoid of imagination we are to brag about it, such silly, such stupid, such criminal waste as this. The Boston Herald yesterday morning stated, with the complacency which it usually strikes, that probably 500 people in the state would be killed by automobiles this year. Think of it, 500 people killed annually by automobiles. Supposing we were to take 500 people and assemble them in a room and slaughter them all at once? Would that appeal to your imagination?

Now a chimney is a flue for the products of combustion, products imperfectly consumed, Professor Woolson says, but anyhow it is a passage way for fire on occasion and the products of fire. Now we all know that anything that is prepared for that purpose should be prepared with intelligence and care because the lives of the inmates of any home may be dependent at any time upon the proper construction of that chimney. Do we value human life, or do we not? Every morning there are in the newspapers stories of people burned to death by the sort of chimney construction that Professor Woolson is crying out against, and this is only one item in the whole American category of carelessness.

I can remember when we first began to use electric light. As I heard a joker say, "we used to think electricity was a very serious matter and now we make light of it." As a matter of fact, we never did consider it a serious matter. We may have done so in our class rooms, but when we began to use electric light, and construct the devices for transmitting it, what did we do, we used wood. Now all you older men remember the old wooden cut out and the wooden cleats. We Americans are speed maniacs, not only in auto-

mobiles, but in life. We aim at accomplishing results without weighing or examining the consequences, or what we may encounter on the way. \$300,000,000 every year, pure waste, and 90 per cent. at least is easily preventable. How did we get into that situation? We average \$3.00 for every man, woman and child in this nation every year fire waste, while Europe averages about thirty-three cents. It is psychology.

We Americans have been born and brought up in a nation of apparently boundless resources, which has made us speeders. When our forefathers settled on the New England coast they had to cut down and burn beautiful trees in order to get to the soil and cultivate it. That spirit has continued with us until this day, with a supply of lumber that has been considered inexhaustible, and we thought it easier to build and burn, and build again. It is only in the last few years we have heard the word "conservation" in this country, and yet the State Forester of Massachusetts told me that 8,000,000 acres of fine forest land was burned over last year. 8,000,000 acres in this country. Perhaps there was some excuse for us to have built of wood, economically considered. A new country, our cities have been ephemeral, built temporarily because we could not tell where the great centers of civilization were going to rest. You know how the northern railways used to build, the men who made so much money out of the gullibility of the western settlers. They built a terminal at some point, bought up the land, set out a city, and then pushed the line on a little further. There is no such excuse today. There is no excuse for a city like Los Angeles, a great big wooden—I will not say what I had in my mind about Los Angeles. When I got up to San Francisco last fall—after calling on all America to rebuild that town, it impoverished all the country when San Francisco burned—I found it now stands there on its everlasting hills, 90 per cent. of wood. What does that mean? It means that thing could happen there again if they had another earthquake—pardon me, it was not an earthquake. I mean if they should have another fire, it would sweep it off the map except for certain down town sections, as easily as it did before.

Another step in our psychology. When in San Francisco they had taken the supply of brick plants and concrete, even then they did not build any fire zones in the protection of these buildings. A brick or stone or concrete building is a fire stop, if you can keep the fire out of it, but we build brick, stone and concrete buildings and then we leave them exposed at their weakest points with wooden window frames, and once a fire gets in there it goes through such a building as though they were wooden ones. The fires in San Francisco, for instance, went up against the wooden window frames and every floor became a combustible flue. You talk about your fire proof building—there is no such thing. The shell will stand, but the contents burn. Unless we protect the window openings, fire can get in. One of the most destructive fires last year occurred in a department store somewhere in Pennsylvania, a fine big four story department store, fine brick walls, modern construction, it should have been equipped with automatic sprinklers, but it was not. Along side of this fine store was a wooden shack of a hotel, and everyone knew if that hotel ever burned it would be a close shave for the department store. However, on the side exposed to this old wooden shack, the department store was equipped with standard fire shutters over all the windows, and they closed these shutters over every Saturday night and Sunday and every holiday; but this fool fire started one Thursday and absolutely destroyed the building and contents, all except the four walls. Now that is typically American. Fires haven't any sense. They don't know when to start or stop. They can't use their heads, but we can.

You will find men build these buildings, and put in these improvements to get their insurance rates, and then forget about them. It is purely commercial, and we are too commercial as a nation. We do not think of the spiritual and economic value of these 8,000,000 acres a year. It is these things that are impoverishing us, no nation can stand it year after year. We are beginning to feel the cost of living, the struggle for livelihood is very great indeed and here are these \$300,000,000 dollars pure waste every year. What a paranoiac-like people we are. One of the reasons why we don't grip this waste and stop it is the silly notion that the insurance companies pay this loss. How can they and remain solvent? They are the disbursers and collectors of this tax. Part of it, as Professor Woolson has stated, is untouched, but \$300,000,000, as statistics show, is covered by fire insurance and is distributed among all of us. The insurance did not pay this waste in spite of what we may read. The



ordinary man sees the heading "Fire Losses" and then he reads that it was covered by insurance. It does not interest him. The insurance companies have no way of getting their money without assessing it right back on you and me. To the price of provisions in New York, and Chicago, and Boston, and Philadelphia, and Milwaukee, and every where; the cost of the insurance is added to the cost. When we buy a hat or a pair of shoes, or anything, we pay that tax concealed under the item of cost, or overhead, or the \$300,000,000 paid every year to the God of Fire. This is indirect taxation, we do not realize it; it is impoverishing us, and we do not realize it. We pay an income tax, or a property tax, we draw our check and we know it. But we pay a tax on everything we eat and wear and we do not realize that our own personal habits regarding fire may be responsible for our impoverishment. Indirect taxation—you remember the Frenchmen called it indirect taxation when they were so taxed they were eating grass like animals. They called indirect taxation the method of getting the most feathers with the least scalding; they plucked the goose. We do not do that so much here in America, except perhaps in Wall Street.

You take the very, very simple example like cotton. Cotton is insured in the sheds of the south. It is insured on the railroads, it is insured for transportation, in the warehouses, in the textile factories, all the way along from the cotton fields. When we buy a bit of cotton, we pay for it concealed in the cotton price. Why this enormous sum of \$300,000,000 is spread over the American people and helps to make the struggle for livelihood harder. We do not appreciate how we are being impoverished by this enormous fire loss. By cultivating better habits, there will be a better market for your brick, so one of the functions which this association should have is assisting and stimulating the American people to see that it is worth while to build permanently and well. We should begin a better order of building and then we should protect what we have builded against fire, and that is the message I have to contribute in support of this most admirable paper which my distinguished friend, Professor Woolson, has presented. (Applause.)

#### Endorsement of Chimney Ordinance.

Secretary Randall: Professor Woolson has handed me a memoranda of a resolution which he thinks would be appropriate.

RESOLVED: That this association approve of the Chimney Ordinance proposed by the National Board of Fire Underwriters, and pledges the association's support for the adoption of the ordinance in cities and towns generally, and that it will urge that all chimneys in buildings outside of control of municipal ordinance be built in accordance with the requirements of the ordinance.

President Dunwody: Mr. Griffiss, is that satisfactory to you?

Mr. Griffiss: Yes.

President Dunwody: Is it satisfactory to the gentlemen who seconded it?

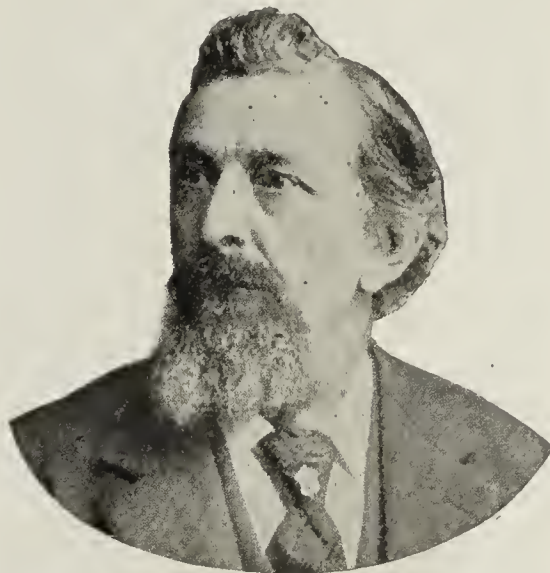
Mr. Byrne: Yes.

John T. Hummert: There are a good many chimneys built that have no flue linings in them, and I think it should be stated in that kind, all cross joints should be mortar joints inside as well as outside. We all know bricklayers will spare their mortar and take their trowels and put it only half way, and then plaster inside and that plaster will dry and fall away and there will be an opening. My father built a good many houses, many years ago, and he was very particular with the chimneys. He did not watch the floors or the walls or the roof, but the chimneys he watched very carefully. I remember one house we lived in the fire was coming out of the chimney, there was snow on the roof, and my father said, "Well, let it burn, you boys go up and watch the ceiling." We let it burn out, and it did not do any damage whatsoever. The house we live in, we smelled smoke all over the house, and finally we found the soot in the chimney had been smothering and that was the cause of the smoke. I took an ordinary newspaper, put it in the flue at the opening below, and burned the flue out without any damage. I had confidence in that flue. I knew it was safe, and therefore I think in this ordinance it should be stated that where there are no flue linings the cross joints should be mortared inside and out.

Professor Woolson: Gentlemen, we have stated before that we do not recognize flues without flue linings. In regard to the fire clay. In justice to the gentleman who gave the criticism—I would say now I would be delighted to get criticisms from any of you, if you will send them to me. My address is on the pamphlet, and we will take them into consideration. But I think Professor Binns struck the keynote. He said we really have no standard to measure these flue linings by, or implied that. That is really a fact, but we know from experience that fire clay flue linings have given the best satisfaction. I think it would be a very excellent thing to get one of the committees, possibly on tile, in the American Society for Testing Materials, to draft proper specifications for flue linings, but until that time I would regret to leave out the term fire clay, but would be perfectly willing to put into the pamphlet that by the term fire clay was meant, not only fire clays natural in character, but fire clays which have been built up.

Mr. Siner, Philadelphia: There is nothing said in this ordinance how these flue linings may be fitted each against the other. There should be just as much attention to the good care there to prevent a fire, as if the chimney were built of brick.

Professor Woolson: It is stated that the masonry shall be built around each section of the flue lining and all spaces



John T. Hummert, Quincy, Ill.

between masonry and lining shall be filled with mortar, and also that the section shall be set in mortar and the joints struck smooth. You will find it all in the pamphlet.

President Dunwody: I think this has been pretty thoroughly discussed.

J. C. Robinson: To get the sense of the meeting, I will offer an amendment to the resolution, that we approve of the ordinance with the substitution of the words "burned clay" instead of "fire clay." This will cover fire clays or anything considered as fire clays. I went to the city engineer and submitted our flue lining. He would not approve that until he had satisfied himself that the flue lining we manufactured was all right. He satisfied himself that our clay made a suitable lining, as good as any fire clay. If this ordinance was adopted in this city, it would shut off little flue lining business. It is a business every brick manufacturer who makes hollow tile can take up and add to his business and it will be a benefit to his whole section, and it will do more for fire safeness than the resolution here presented.

Jay Terry, Kingston, N. Y.: I second the motion.

Professor Woolson: Before this is voted on, I wish to say this. First, were this to be adopted only by this organization, I would have nothing further to say. It would be up to you to decide what you should do. But it has already received in its present form the endorsement of the American Institute of Architects, and two or three other organizations. In the discussion we have had here I am quite convinced these other organizations would not approve of the change,



and I think there is no question of doubt that there would be any objection to the explanation I would have put in. Second, we wish to go to press. We have already been delayed for two or three months, and I want to go to press within two or three weeks. I think it would be very unfortunate if we could not have your endorsement. I might have to leave the brickmakers off, and it would be a source of great regret.

C. P. Oudin, Spokane, Wash.: Because the engineer of a city states that fire clay would be a better lining than any other clay is no reason why we should endorse what the engineers say. They may not know anything about the merits of the burned clay flue. We manufacture a fire clay flue, and when they are burned too hard they crack in the chimney, and when we burn them at a safe, smooth degree they stand up. This gentleman manufactures a flue lining of brick clay and he can make as good a flue lining as any flue lining ever made.

Mr. Griffiss: Professor Woolson has not stated that fire clay is the only clay. It is very clear that is not true, but he stated very clearly that that question had come up, and that the Ordinance as it is has had numerous endorsements. I think the Ordinance should be endorsed by this Association. I think the amendment is too sweeping in saying burned clays, because some burned clays will not stand, and Pro-



R. L. Winslow, New York City.

fessor Woolson's suggestion that every burned clay that is admitted to have the same purpose as fire clay will be acceptable, I think covers every objection made to the resolution.

Mr. Hammond: I agree with Mr. Griffiss, and I agree with Professor Woolson that it would be very unfortunate if this matter should be passed over by this Association failing to endorse this ordinance. I am sure we all appreciate the kindness and thoughtfulness which had produced this paper by Professor Woolson. The adoption of this resolution endorsing the ordinance I am persuaded will not prevent the use and sale of the product of this member from Virginia, and very many others, because the Professor has said that in the appendix he will approve of a clay that will answer the purpose of fire clay.

President Dunwody then called for a vote on the amendment, which was in the negative, and he declared the amendment lost.

President Dunwody: Gentlemen, you will now vote on the adoption of the original resolution, which carries with it the endorsement of the ordinance presented by Professor Woolson.

The motion was carried.

President Dunwody: What is next on the program, Mr. Randall?

Secretary Randall: The next number was to have been a paper on "Drying Brick and Tile," by Mr. Joseph Buckley, an old-time member of the N. B. M. A., but he tells me he has some slides with which to illustrate his paper, and as we will have the lantern man here tomorrow we will pass Mr. Buckley's paper and take up the next, which is "Brick Paved Highways," by Mr. R. L. Winslow, president of the Eastern Paving Brick Manufacturers' Association.

#### "BRICK PAVED HIGHWAYS."

BY R. L. WINSLOW, PRESIDENT OF THE EASTERN PAVING BRICK MANUFACTURERS' ASSOCIATION.

Mr. President and Gentlemen:

I hardly feel that it would be correct for me to presume on your good nature by attempting to tell you anything about the practical end of the manufacturing of paving bricks. All those of you who are engaged in the active work of manufacturing undoubtedly have a more superior knowledge than I. The paving brick maker has problems confronting him entirely different from those of his fellow clayworkers—the common and face brick manufacturer.

During the past twenty-five to thirty years there has been wonderful progress made, both in machinery and methods. There is no question whatever but that the bricks of today are decidedly superior in every way to those made even five to eight years ago, and equally as great progress will be made during the future years, for we realize that we are still some distance from even nearly perfection. Many of our present day methods must be considered positively crude. We must discover ways that will result in more rapid and economical production. The field for progress in our manufacturing is tremendous and the problems yet to be solved are worthy of our hardest and most earnest efforts. New and improved machines to lessen the labor costs, and more advanced and economical methods of burning are two of the most pressing needs.

The paving brick manufacturer occupies a rather peculiar position, particularly in relation to our municipal life. He is in reality what might be termed as a semi-public service corporation. The streets and highways on which his materials are used are possibly the most public division, of our government. They are used by the rich and poor alike, and neither can do without them. The maker of paving brick must deal with public officials, therefore his methods of distribution, the requirements of the service demanded of him (even after his product is delivered and paid for) make his business of necessity unlike that of any other commercial proposition that we know of.

During the past twenty years and less there has been a most wonderful change in the manner of selling. The old days when grafting was considered almost legitimate, we are pleased to say, have passed. Merit in the product has taken its place.

The method of proper construction is now receiving more deserved attention from city engineers, contractors and the paving brick manufacturer. Properly constructed vitrified brick highways are the highest possible form of result-producing advertising that our industry can secure. Do you realize that there has never been a *properly constructed* brick pavement that has worn out? We can't know the life of a *properly constructed* brick pavement: it may be fifty years; it may be a hundred.

During this year there will be spent in the United States for highway construction approximately one billion dollars. It is stated on good authority that only about one per cent of the highways of our country are improved to the extent that they will carry our present day traffic. Of those improved we are told that they carry about ninety per cent of the traffic of the country. From these figures we should be able to look forward for business for some time in the future.

The future of our industry rests squarely on the shoulders of the manufacturer. He must make a superior product or some competitive form of pavement will. He must reduce the present costs or the price will prove prohibitive. One of the reasons that more bricks are not used for paving purposes today is on account of the high first cost. Granting that we admit that we have possibly the cheapest pavement—considered on a basis of cost covering a period of, say, fifty years—yet that first high cost compared with competitive pavements is a hard hurdle and only through constant education of municipal officials can we hope to hold our own. High freight rates put us to a further disadvantage in competition, for we are more severely affected by freight than any other form of pavement.

If I could leave with you any thought of value, I would hope it might be this: Devote your best energies and time to reducing your costs to the minimum; increase the volume and quality of your product; insist upon your bricks being properly laid, and the future of your business need not give you great concern.

(Applause.)

President Dunwody: This is a very important and interesting topic, and we have listened to a very interesting paper. We have adopted a slogan, "Make it snappy," and as we must give way to the C. B. M. A. now shortly, I will call upon Mr.



C. P. Mayer to lead in the discussion of this paper, and will trust to him to "make it snappy."

#### Brick Pavements.

C. P. Mayer: They said to make it snappy. I do not know what snappy means. I presume he meant short. I want to ask if Mr. Perkins is in the room. If he is not, I wish some one would go out and call him. I want to make it very snappy, as the chair requests, by substituting Mr. Perkins in my stead. There is no use in me trying to talk about brick highways and cut it short, because the subject would lead me to talk all day and not give it half justice, and not being a Senator, of course I am not talking this subject to death. I do want to say this—that paving brick is the best material for highways, except possibly granite block. When I say that I mean all I say. The gentleman who read that paper, Mr. Winslow, made the statement that he knew of no brick roads that have really worn out, if properly constructed. I know that the country's greatest problem of today is road-building. I know that brick roads that are now in existence are carrying greater loads than any other pavement so far constructed except granite. Some people may contradict that statement, but they cannot do it successfully. When I say brick is the best material I challenge contradiction. We admit that as brick men and brick manufacturers, and when we consider that the road-building business is just in its infancy and has been restricted in the last five years by the war, we see the reason why the roads of today are inadequate. I want to call your attention to some of the things that occurred in road building, and I do not want to pick out one kind of material, and it is only to show that I would be considered entirely fair that I tell of my own brick first. We furnished the brick eight years ago for a road leading out of the city of Pittsburgh about one-half or three-quarters of a mile. They put in a concrete base, then on top of that a sand cushion, and on top of that they laid our brick and grouted the road with asphalt. I went to the engineer and remonstrated against that method of laying brick. I thought I knew all about how brick should be laid, and I was sure brick should be grouted with cement only. In that I demonstrated my ignorance, as I have learned by watching the wear of all kinds of roads since that time. The experience in that case was as follows: The contractor, for some reason unknown to me, and I think to most people concerned, put in a concrete base that did not stand frost, but disintegrated. Fifty per cent of the curb disintegrated the first hard winter, and that brick road is there now without curb, and you can imagine with a supposed soft filler like asphalt the condition of that road with trucks running over it weighing ten or twelve tons and no curb to hold the brick. The steel tires ground these brick off at the edge and the big trucks turned them on end. After the road was opened I happened to pass over it, and since that time I drive to the city over it daily. I passed over it once during a heavy rain, and down the gutters on both sides there was a stream of red water that was colored by the coloring from those brick. The principal owner of a brick plant and a competitor of mine said, "Mayer, if you are successful in getting your brick in any more roads in Allegheny County the brick business is done for." I thought so, too, when I saw the red water running down that gutter, but, you know, that road is there today, and where the foundation did not give away, and where the curb is still in existence along the side of the road, the brick are in good condition. In other words, the wear has not destroyed it in any way. I heard an engineer make the statement, "If those brick had been laid on a good foundation that would not have disintegrated, and a proper curb laid alongside, it would be there ten years from now doing service." When the questions arise as to how a pavement should be laid there are a great many different opinions. But there is one thing sure, our road-building business in general must be improved over what it is at the present time. Ordinary roads will not stand the heavy trucking, and the trucking business is just in its infancy. I will make a prediction that in less than ten years from now railroads whose largest revenues are derived for carrying freight will go out of existence because of trucks carrying freight in their stead. I can see that, and I would like to say to you, I want you to remember this statement when you see in the newspapers in the future of some railroad being unable to pay dividends, or having gone into the hands of the receiver, by reason of not having sufficient income to remain in the business, you can blame the trucks. I have talked about my own brick. Now, I want to talk about some of the other materials. I have in mind a road that leads from Cecil, in Allegheny County, to a town known as Venice. I drove over that road and counted the

slabs or cross-sections. There were about two hundred and ninety slabs. I also counted the broken slabs; in that pavement, not over two years old, were ninety-seven broken slabs of concrete. That much for concrete. There is one marked difference between concrete roads and brick roads, and that is that the cement manufacturers spend six hundred thousand dollars a year in advertising cement for road-building and other uses, and the brick people, poor as Job's turkey, can spend only a few thousand dollars for the purpose of getting the brick before the public. The force of advertising comes into play there. In that connection I might call your attention to the Uneeda Biscuit. You will find in almost every journal, particularly the ones the ladies read, "Uneeda Biscuit" illustrated with a beautiful label, with a blue, pink or fancy colored ribbon, with a view of educating the housekeepers of the country that "Uneeda Biscuit" is a wonderful element of food. One of the newspapers of New York attacked some of the false advertising, and they gave statistics to show that in a package of "Uneeda Biscuit," which costs ten cents, there was only two cents of food value. All these advertisements are put out before the housewife until she feels that her table is not complete until she has "Uneeda Biscuit" thereon. I candidly believe that if one has enough money to continually repeat an advertisement of a commodity, whether it had merit or no merit, you would be able to successfully put it across. That is the case with cement. They spend a large amount of money to make the public believe it is the right material, not only for road building, but for everything; and the most ridiculous untruth is that they add that the most inexperienced labor can work cement. It is



Ex-President C. P. Mayer, Bridgeville, Pa.

a contemptible falsehood, as the greatest trouble is in getting men who understand how to work cement so as to get a proper mixture. When they asked me if cement is a good road material and I answered, "Fair, if you take care of the seven ifs," which are as follows: (1) If you do not let the cement freeze before it is thoroughly set; (2) if you do not allow the hot sun to evaporate the moisture before it is set; (3) if you do not use old or stale cement; (4) if you take care of the expansion and contraction, which is the most difficult thing to accomplish; (5) if you make the mixture too rich it will tear itself to pieces by expansion and contraction; (6) if you make your mixture too lean, by saving cement, it will not stand the abrasion of the steel tires; (7) if you employ a competent engineer, an honest inspector or an honest contractor. Some time ago I was at a lumbermen's convention and I saw in the audience five or six men whose sole interest is cement. I wondered what they were doing there, when it dawned on me that they were getting pointers; information probably to knock wood as a building material. That did not surprise me a bit, because wood is not the best building material. It also dawned on me they were there for a purpose, so, when opportunity presented itself, I told of a farmer who said he had found cement the best material for building hog sties. I said I wanted to remark that cement had come into its own, and that it was fit for building hog sties. Mr. Randall just whispered something to me. He said, "Cut it short."

Secretary Randall: No, I said Mr. Perkins is here now. (Laughter.)



Mr. Mayer: Oh, come forward, Perkins, I will give way to you.

Mr. Hummert: I want to ask Mr. Mayer a question. In our town we were going to lay a lot of brick streets, and among them about seven or eight squares of creosoted wood block. They put in a good concrete foundation, then laid the wood blocks on the cement foundation, then they grouted with a mixture of tar and without any cushion or asphalt. They also laid the brick on tar. The question I want to ask is—do paving brick manufacturers advise that kind of construction—no cushion at all between the concrete and the brick? Would you favor that?

Mr. Mayer: I would say that comes under the new method of construction. In the West the paving brick manufacturers have adopted a system of their own. Their slogan is, "If you will permit us to build a road without cement we will build for you a road that will not crack." The way they build that road is this: They roll twelve inches of any kind of hard local stone as a foundation, then they take the screenings from the crusher where they crushed the stone and distribute it over the surface, bringing it to the desired contour of the road, then they pour three or four gallons of coal tar over it to make a surface, or bind together these fine particles so they will not shift; then they put their brick on top of that and grout with asphalt. They argue that there should be a binder to hold the brick in place. These roads have been built for six or seven years, and they have been a suc-



Ex-President M. E. Gregory, Corning, N. Y.

cess so far. The argument is by reason of the asphalt, the rigidity is permitted; with just enough elasticity given to the brick, and the heavy traffic will not be injurious to the brick as it is if grouted with cement. There was a time when the brick men endorsed cement filler in every instance, but it is not so now; they know better, using asphalt filler; it makes a noiseless street.

Mr. Hummert: I want to say that this creosoted block improvement is completed and is not entirely satisfactory, whether it is from faulty construction or not, I am unable to state. The street is not smooth. It has been rolled, but when any traffic goes over it it is wavy.

Mr. Mayer: It is faulty construction.

Mr. Hummert: A fellow took sick and called the doctor. The doctor did not know what the trouble was, but he said: "From all appearances you must have sea sickness; where have you been?" He said, "I haven't been anywhere." It finally turned out he had been riding over the creosoted block street and got sea sickness.

Mr. Mayer: Well, a good laid creosoted block will not make you sea-sick. It, however, is dangerous for horse or automobile travel. We do not give it a place in paving materials; the life is too short. We hear of good creosoted block streets in London, and when you consider how wood block is laid in London it is not a surprise. They put down

a concrete foundation, and it is one that does not disintegrate either. On top of that they put a cushion of material, these wood blocks brought from the colonies of England as ballast, and they can be put on the streets of London cheaper than any other street material. These blocks, when unloaded, are put in a dryer, as we dry brick. The moisture is absolutely dried out. They are then put into a creosote vat and thoroughly soaked. When you cut a block open in London you will find the whole block penetrated with creosote. Then they take a hob nail, such as is used in mill-workers' shoes, and they drive one in each corner, the same as we put lugs on paving brick. The blocks are laid on a sand cushion, rolled and grouted with cement to a smooth surface. When they let contracts in London they let them for fifty years, and contractors are required to take up these block and replace them every five years. They are paid thirty-five cents a yard per annum, and when a contracting company has five or six long streets in their blocks they are fixed for life. That is why the creosoted blocks of London are talked about. If we took creosoted blocks and laid them as they do in London we would have good streets here, too, at great cost per yard. Now I see Mr. Perkins in the room; will he come forward?

W. C. Perkins: Gentlemen, it is five minutes after twelve, and no time to talk on the N. B. M. A. program after twelve o'clock. Every highway engineer with whom I talk appreciates the value of brick paving, and always tells me they would be very glad to use it. The great trouble they find is the difference in cost—in first cost between the brick paved highway and some of our competitors. I am greatly in hopes the brick will be able to cut the first cost down so we can put more brick in the highways of New York.

President Dunwody: This, I believe, closes our program for the morning.

R. C. Burton: I will not take but a very few minutes, but I want to tell about building roads without concrete. We put down twelve inches of rough stone, such as you would find in the fields anywhere. Run a twelve-ton roller on there and roll the twelve inches down to six inches. You lay a strip 2x4 alongside, put your cushion on, lay your brick, and cover them with tar, not cement. Take a crowbar and pull out your strip, fill it with steel; the steel will make you the best curbing you want. I do not know where you can find better natural roads than in New York state. Mr. Perkins speaks about lowering the construction of roads. They can go into the field and get plenty of stone and roll them as I have explained and get the best surface possible. Put on your cushion, then your brick, and then the tar. It is the most practical and simple way, and you get the best roads in the world. (Applause.)

President Dunwody: Is there anything else, Mr. Randall, before we adjourn?

Secretary Randall: We practically stand adjourned, and the officers of the Common Brick Manufacturers Association will take the platform, but while they are getting ready I want to make an announcement or two. Please get your banquet tickets as you go out. Tomorrow is strictly N. B. M. A. day. Most of you, I judge, go to picture shows and pay a good price. We are going to give several picture shows tomorrow, and I assure you they will be worth the price of admission. There will be several very interesting papers, illustrated with lantern slides, and one moving picture. Please be prompt tomorrow morning, for we are going to have a most interesting session. Many are asking about their railroad certificates. If any of you have certificates that you have not turned in please do so now. We must have 350 certificates in order to obtain the reduced rates returning.

President Dunwody: Before we give way to the C. B. M. A. I want to announce the Committee on Resolutions:

H. B. Loveland, Jewettville, N. Y.  
Howard H. Stafford, Augusta, Ga.  
Harrison Clippert, Detroit, Mich.  
W. H. Lucktenberg, Zanesville, Ohio.  
Rufus C. Morton, Princeton, Minn.



H. T. Wynn, Trafford, Pa.  
Oscar Zimbal, Sheboygan, Wis.  
Richard Leek, Ogden, Utah.  
Kenneth McMillan, Milledgeville, Ga.

Mr. Loveland: I would like to meet the members of this committee out here in the registration room immediately.

#### Fourth Session.

Friday, February 4, 1921, 10:00 A. M.

Secretary Randall: Our President is busy this morning, and none of our Vice-Presidents are here. Ex-President Hammond, will you please take the chair and call the convention to order?

Chairman Hammond: Pending the arrival of a better man, I will serve. Gentlemen, the convention will come to order. What is the first on the program this morning, Mr. Secretary?

Secretary Randall: If it is the pleasure of the convention, we will first hear from Mr. Herman Matz, of Chicago, who wants to tell you something further about Mr. Beal's message. Mr. Beals was somewhat limited as to time, and Mr. Matz wants to go into the subject a little further this morning.

President Hammond: Mr. Matz, we will be very glad to hear from you at this time.

#### THE IMPORTANCE OF THE CONTRUCTION INDUSTRY.

Herman Matz, Chicago: Mr. Chairman, ladies and gentlemen, I wish my audience this morning was all ladies. They are easier to talk to. I had a four hours' conference with Mr. Beals yesterday evening, and he was kind enough to show interest in two rather brief statements of facts having to do with construction in general and housing in particular. I have used these at other meetings similar to this, and am glad to have the opportunity before the regular program of this morning to read them into the proceedings of this convention. The first statement has to do with construction in its broadest meaning—"the production of shelter."

#### SHELTER.

Construction is the exact opposite of destruction. It is building up instead of tearing down. Construction in its broadest sense is the production of shelter. Food and shelter are the primary and universal needs of man at all times and everywhere. Air and water are food. Clothing and housing are shelter. Without air a man will die in a few minutes, without water he will die in a few days, without ordinary food he will die in a few weeks. Nature furnishes air and water freely, abundantly, and without effort on man's part. Food when produced must be stored until it is needed, or moved to places where it is not produced.

Shelter is protection against unfriendly nature, too much heat, too much cold, too much wind, too much rain. It protects against waste, discomfort, sickness and death. Moderate heat warms, too much heat burns and destroys; moderate cold furnishes comfort, too much cold freezes and kills; moderate wind refreshes and furnishes power, too much wind causes tornadoes and destruction; moderate rain aids the growth of crops, too much rain causes floods and destruction.

Shelter is stationary and movable. Stationary shelter is the home, the factory, the school, the store, the church, the barn, and every other kind of building. Movable shelter is the ship, the freight car, the passenger car, the auto car. Stationary shelter requires foundations so that it cannot be moved by the wind. Movable shelter requires water for boats, tracks for cars, good roads for trucks and power to move.

To a large extent the same materials are used for the production of both movable and stationary shelter—lumber, steel, burned clay products, cement, stone, sand, lime and gravel. Except lumber, these materials are all made of cheap varieties of minerals found below the surface of the earth.

These raw materials found in the ground are manipulated, burned, graded, and by the use of many kinds of labor changed or fashioned into construction materials. They are handled by labor and transported by labor to the place where the building or railroad or boat or highway is to be constructed. Then again labor, common and skilled, combine to form the shelter, stationary or movable, of the roadway on which the movable shelter is to conveniently and economically travel.

Thus in the production of shelter cheap and otherwise useless raw natural resources of the inside of the earth are transformed by labor into permanent, useful, waste-saving, health-preserving, comfort-giving, life-saving instruments of man.

The production, transportation and skillful use of these construction materials require the services of manufacturers, distributors, architects, engineers, contractors and their assistants, various means of transportation as well as the services of all branches of skilled and unskilled labor.

All of these services are paid for and together make up the cost of the various kinds of shelter. These earnings are spent for all kinds of commodities and products that contribute to the

health, comfort and pleasures of our people. At the same time all of the money spent in this construction is preserved in the permanent value of the shelter.

In other words, what we spend for construction adds to our wealth, and when a nation that has plenty of money can add to its wealth by spending its money it would seem to require no argument to show that the sooner the spending begins the better it will be for the nation.

The other statement has to do with what it means to build a million homes, showing the relation of construction to other business.

#### A MILLION HOMES.

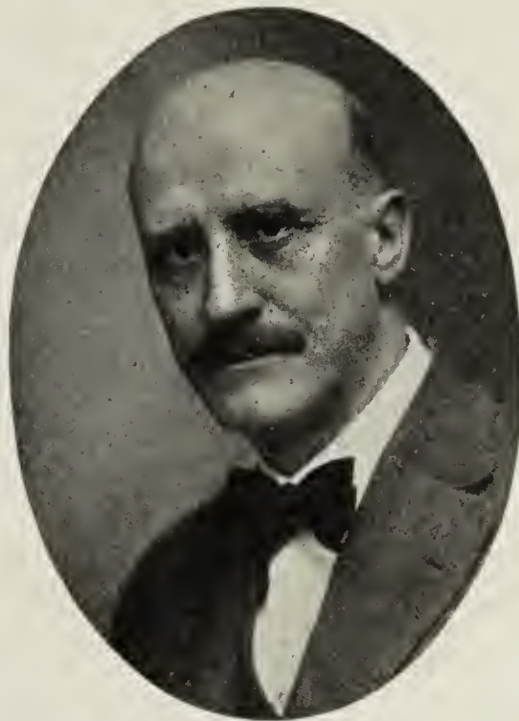
We need a million homes. Do we realize all that it means to build these homes?

It means not only the earning of wages and profits by those who have a share in the production and use of the building materials that form the houses.

It means the moving of thousands of cars of freight and the earning of millions of dollars by the railroads.

It means the buying and selling of the furnishings of a million homes. It means millions of carpets, millions of stoves, millions of sets of kitchen utensils, millions of beds, tables, chairs and curtains, millions of ice boxes, millions of rolls of wall paper, millions of sheets and towels, millions of all the other things that go into the furnishing of a home.

It means the payment of wages to those who produce these furnishings, the spending of these earnings for other things, the payment of wages to those who produce these other things, and so on in a virtuous circle—not a vicious circle like that which has been so much talked and written about in connection with rising prices and advancing wages.



Herman L. Matz, Chicago, Ill.

What is true in regard to the building of homes is true of the building of hospitals and schools which we need so sadly.

The spending of this immense amount of money will mean the legitimate, sensible employment of energy of all kinds for the comfort and health of the same men and women who do the work and earn the wages.

Whether or not the individual who needs a home for his family can afford to build now may be a question for debate. But can the nation afford to wait longer for building to begin? (Applause.)

Secretary Randall: We thank Mr. Matz for his talk which is very timely. He is always with us. There is a gentleman here this morning who has something he thinks you will all be interested in. He has a resolution he would like to have you consider, and he can tell you himself why he thinks it should be adopted.

Vice-President Wilson in Chair: Gentlemen, we will now hear from Mr. William C. Wilson, representing the American Institute of Weights and Measures, New York City.

#### A Plea for Support of the Standard System of Weights and Measures.

William C. Wilson, New York, N. Y.: This subject would not be of particular interest to you if it were not for the fact that there are bills before the House and Senate of Washington, which if passed would compel the abolition and prohibition of our present units of weights and measures, and



necessitate the establishment of a new and expensive system of weights and measures in this country. That is the only apology I have for taking up your time. There has been a propaganda in this country for many years, and this is a culmination of that propaganda which has extended all over this country. I presume many of you have received literature urging that you support this proposition. Some of you may not be entirely familiar with the metric system, so-called. It is a system which uses the litre and the gramme as the basic units which they propose to adopt in this country under compulsory law, and take the place of our yard, our foot, our inch, and our pound system. Under the rules, and under the complete revolutions, under the provision of the act which they stand back of and which they have organized to put through, and which they have notified the country they will put through, if possible, it is provided among other things that four years from the day of the passage of that act, it shall be unlawful to manufacture, either for your own use or for sale, or to use any measuring or weighing device of any kind that is now made, according to the metric system of weights and measurements. In other words, four years from the passage of that act, you could not buy a foot rule, or yard stick or any weighing device that would be in the unit of pounds, etc., which we now use. It is hardly necessary for me to say that such an act would be revolutionary in character, and when you consider there is no detail of manufacture or any kind of production of any kind using the standard of our present system, and the enormous cost and the confusion which would be entailed by any such legislation compelling the fundamental change—it would simply be confusion confounded, and the cost would be beyond computation. I haven't time to discuss the pros and cons of the metric system with the present system. When you consider every detail of human life is standardized upon the present system of weights and measures, and you propose to revolutionize that by applying an entirely different system, you can readily see what the expense would mean in new equipment and new machinery, and the change in relation to your own employees and its effect upon them; a system with which they are now familiar, and the education, the mistakes and the errors which would be made would be an element of tremendous cost. Industry generally has taken a very strong stand on this subject. National Associations have passed resolutions in regard to it. National organizations such as yours are opposed to it. I will read you a list of some of the associations which are with us in this matter. The National Association of Manufacturers; Metal Trades Association; Automobile Chamber of Commerce; Society of Automotive Engineers; Labor Associations of America; American Railway Associations, both Mechanical and Engineers Department; Retail Lumbermen; American Hardware Association; National Traffic League; National Steel Association; National Founders Association; National Association of Corrugated Box Manufacturers; American Steel Manufacturers' Association. These are only a few of the national associations which have taken a strong stand against this proposition. If the government report, copy of which I have here, which includes a survey of the effect of the compulsory legislation of the metric system with the other systems of the world, it shows that a compulsory adoption of the metric system in other countries of the world where it has been attempted has simply resulted in a mix-up, in a dual system. For instance, do you suppose that with our 500,000,000 people by passing a law in Washington you could change the traditional system that enters into the every day life, industrially and commercially in this country. You might as well talk about adopting a new language. In 1886 the metric system was made legal. It stands on a par with the present system, being made legal by an act of Congress. Now these people are trying to force it down our throats, whether we want it or not. If in the evolution of time and of industry it is found advisable to make a change in the system of our weights and measures, then it will come through the natural evolution of business and not through any compulsory law passed down at Washington. Our metric friends do not care how much it may interfere with our business, they are following a fad, an idol, which they say in the long run would be to our advantage, and it is opposed by the standard interests of our country. That gentlemen, is a very brief presentation of a very important subject, and I have asked your association through your Secretary, to pass some resolutions, if you are agreeable, stating your position upon this important and pressing issue. It is a matter of dollars and cents to every manufacturing or producing concern in the United States.

#### General Discussion.

Mr. Hammond: Before Mr. Wilson leaves, I wish to endorse from my point of view everything he has said against the adoption by the American people of that system. If that system has been legal by adoption for nearly fifty years, it must have occurred to all thoughtful people that it was not adaptable to our lives, that we do not desire it, or it would be in common use now. I would like to ask Mr. Wilson who are the proponents of this bill, who is urging it? What is behind it?

Mr. Wilson: I can answer that question very briefly. College professors, scientists and a certain class of consulting engineers who are not connected with the production in any industry, a great many people who are taken with the idea of internationalism and the unifications of everything in the world in all countries, and a certain class of people who have an itch for change. They have secured the passage of a number of drastic laws under which we are now struggling, and having reformed the country in some regards, and having nothing else particularly in view, have taken up this proposition as a reform, and the result is we have all over this country thousands of people who have been misled in the first place, and having this itch for change, they think it spells progress and are back of this proposition. Further than that there are certain individuals who have organized throughout this country, pledged to support this bill. We know where



Howard H. Stafford, Augusta, Ga.

some of the money comes from. We don't know where most of it comes from, but there is a very large sized suspicion in the minds of some manufacturers that there is foreign money back of it for the reason that we cannot play into the hands of our foreign competitors in France, Italy and Germany any better than by making the change at this time when industry has enough burdens to bear without assuming any more, and it would redound to their benefit. There is no question there is foreign money back of this movement. You would be surprised to hear the speeches of some of these men. To boil it down, it is based on idealism and is Utopian. On the other hand every practical manufacturer or purchaser in this country is against it, and that is why the American Institute of Weights and Measures, which is supported by manufacturers and organizations was originated to fight against this movement.

Mr. Hammond: I move that the matter be referred to the committee on resolutions. Carried.

Vice-President Wilson: What is the next order of business Mr. Randall?

Secretary Randall: I would like to call attention to the fact that we have an unwritten rule that all speakers are limited to five minutes except by special courtesy of the convention. We have with us another gentleman who has a message for us, and since the stereopticon man is not quite ready, I suggest we hear Mr. William B. Harris of the National Industrial Conference. We are really indebted to Mr.



Harris for having Mr. Alexander with us at the banquet last night.

Vice President Wilson: We are glad to have Mr. Harris with us, and will be glad to hear from him. Mr. Harris, gentlemen.

#### The Road to Industrial Economics.

William B. Harris, New York City: Your Secretary said I was to have five minutes, and I will occupy three. I was much interested to learn yesterday in listening to one of the addresses that we were doing something over in New Jersey that the rest of the world did not know very much about. We make some things over there that some people do know something about. The speaker, Mr. Stoddard, did not know about the brick hollow wall which we have been building over in New Jersey. It is a pretty good state to live in, and I go over there every night. We are building something in New York City that perhaps many of you were not aware of until you heard Mr. Alexander last night. We are building a road, a new kind of a road composed of an article just as old as brick, just as satisfactory and as wearing as brick, just as serviceable as a meeting ground as brick. A road composed of facts. We have theory on one hand and we have a remedy on the other, and they don't get us anywhere. The National Industrial Conference Board was organized three years ago to give facts in connection with industrial economics. It is composed of National and State Associations



Joseph L. Buckley, Philadelphia, Pa.

of Industrial producers. Unfortunately we have not as yet either of the brick associations. We hope they will become inclined to look into our board, and see whether we can furnish them with facts that will justify them in becoming members of this board. We are getting facts for the various associations comprising the board, as to the cost of labor, cost of living, as to the change in wages, and building a ground so sure and so perfect that the employer and the employe can meet there and solve the difficulties they are up against. Shelter and food have been alluded to by a previous speaker. You ought to know what they cost. The manufacturer must know what his wage budget is, what the budget of the employe is, and the wage earner must know what it is. Some time ago a strike was called in a Western city. The demand was for a 60 per cent. advance in wage. They did not know in that city what the wage earners budget was. The board made a survey of the situation, and the demand was immediately withdrawn and instead of a 60 per cent. advance, a 25 per cent. advance was asked for and that was arbitrated and settled on 18 per cent. It averted a very serious strike. We would like to have you become more acquainted with the work we are doing. I have a chart here and other material which I would be very glad to talk over with any of you who are interested. You may be without certain facts in connection with your industry. We would like to co-operate with the brick associations and get you the information you need in the brick industry as well as others. We have a chart here made up for the boot

and shoe industry. You may be interested in looking at it and I will be pleased to hand them to any of you who care to look them over at the close of the session.

#### Death of Mr. Oswald Spier.

Secretary Randall: We had an evidence this week of the uncertainty of life. Death has never come quite so close to the convention as it did this week. That splendid fine type of man who addressed us Tuesday morning on terra cotta, Mr. Oswald Spier, left us to attend the annual meeting of the National Terra Cotta Society at Chicago, and died on his way there. It is a great loss to the clayworking fraternity. The funeral will take place Saturday, and the Terra Cotta Society has adjourned to come to attend the funeral. Any of the members here who care to attend the ceremonies will, of course, be welcome.

We are now ready to take up the regular program. You will remember we deferred one of the papers on yesterday's program until today, because of the illustrations, that on Drying Brick, by Mr. Buckley, who is an old time member of the association and has favored us on previous occasions.

#### DRYING BRICK AND TILE.

BY JOSEPH L. BUCKLEY, PHILADELPHIA, PA.

Gentlemen of the Convention:

We had the privilege, last evening, of listening to one of the best banquet programs that we have ever had, I say best because it was educational from start to finish, and from every speaker we learned of greater possibilities. We are facing a new era in the clay manufacturing business, which was so ably pointed out to us by Mr. Bryan.

Great and grave thoughts were clearly and forcibly brought home to us by Mr. Alexander, with reference to dealing with that great Industrial problem.

In every address last night, you were reminded that if you are to step out from the brickmakers' class into the realm of brick manufacturers, you must discard the old ideas and customs and adopt the more modern and scientific methods which have been developed.

It is a pleasure to be able to meet with you again and to have the privilege of discussing a subject which, in my opinion, is one of the most difficult problems that all clay manufacturers are confronted with.

For eighteen years I labored with you and met the problems which we all encounter in the clay manufacturing business. For the past three years I have been studying and helping to develop the Proctor system of drying in the clay field, and I am glad to have the opportunity of explaining this system and to give you the benefit of the experience and knowledge that I have gained, and trust in doing so it may be of some value to you.

I do not attempt to say that the Proctor system can be used to good advantage in every brick or porcelain plant in existence. Common brick manufacturers, where their drying or color of their product is of no particular importance, can use other methods that will answer their purpose; but, I do claim where color or quality of the "finished" product is to be considered, the Proctor dryer will prove not only necessary, but of unestimated value.

Wet brick or tile set in the kiln greatly retards the burning and creates "loss and waste." In the ordinary tunnel type dryer, the heated air is drawn lengthwise through the dryer, and, in most cases, the tunnels have a greater area of space around the truck than at the point where the air is taken into the dryer. Air is like water, and when it is pulled lengthwise through the tunnel, it is only natural that it will travel through the unobstructed space and does not travel through the ware.

It is not my purpose to discuss at length or to condemn any particular type of dryer, but rather to show you how it is possible to greatly improve your conditions, secure a uniform and thoroughly dry product, greatly reduce your drying time, the number of dryer cars in use, floor space, etc., by using a more scientific method of operation without any additional cost.

In progressive tunnel type dryers, where the heated air is taken in at the discharge end and taken out at the feed end, it is easy to understand that, during the day when the green brick are being placed in the dryer, the temperature would be greatly reduced so that in the evening, when the dryer is filled with green ware, the temperature would be considerably lower than in the morning, and, during the night as the brick or tile would become heated and partially dried, the temperature would gradually raise, especially at the feed end, so that at 7 o'clock in the morning the temperature would be much more than it was at 5 o'clock the evening before, so that when you place your green brick or tile in the dryer in the morning, they come in contact with a far different condition both as to temperature and humidity than the ware that was placed in the dryer the evening before, so that it is not at all surprising if you find certain cars come out of the dryer with cracked or damaged ware, while the cars immediately ahead might be all right.

In our system we do not move the air lengthwise through the dryer, but blow it "crosswise," or "up and down," as the



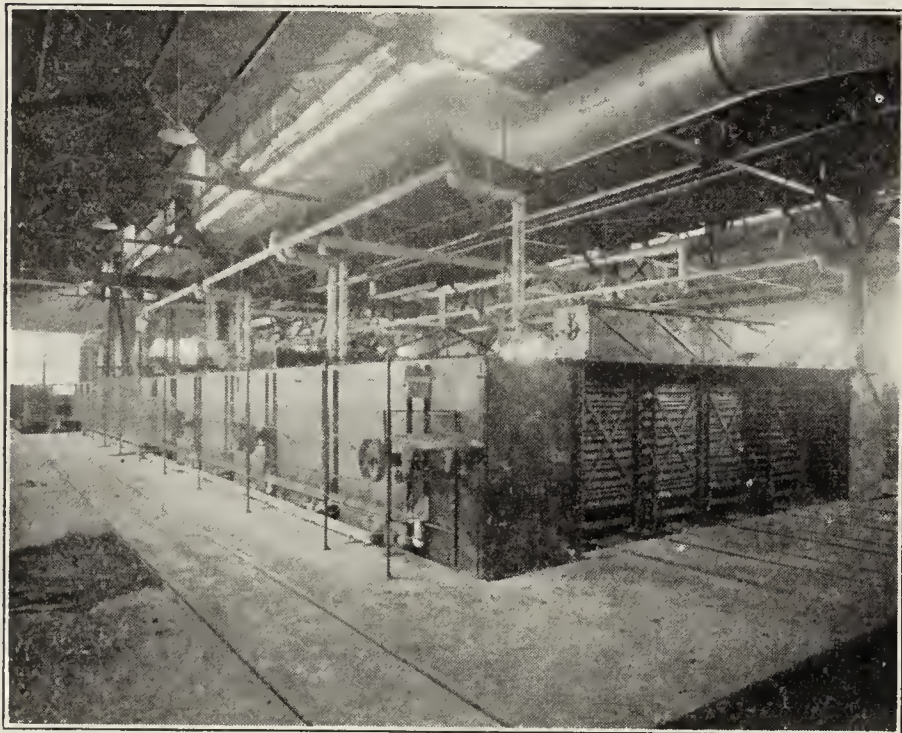
case might require. We reheat and recirculate the air, as will be shown later on the screen.

We arrange the coils in such a manner so as to provide a lower temperature at the feed end of the machine and a higher temperature at the discharge end. We provide our machines with *temperature controls* so that we are able to maintain constant and different temperatures at different sections of the machine. The feed end naturally contains a greater amount of humidity, and the air, being blown crosswise, allows the brick to become heated before any great amount of drying takes place, and the machine, being equipped with temperature controls, prevent the temperature from raising beyond the desired point during the night, and with this system, we really start the drying from the center of the body and dry from the inside out rather than from the outside toward the center, and, having the dryer under pressure, we force the air through the ware on the cars and subject each brick or tile to the same condition, thereby uniformly drying the brick throughout the entire ear.

In the side fan type machines, the product comes in contact with the air from a different direction each time as it moves forward a car length. We also secure the same condition with the overhead fan type, where we secure the "up and down" air circulation, by using right and left hand fans, or reversing them, as the case might be, and with this method, the ware also



Floor Plan of Proctor Dryer.



Typical Proctor Dryer or Stove Room

comes in contact with the air from an opposite direction each time the car moves forward a car length.

We provide an *automatic truck moving device* on all our installations so that the trucks are moved by power rather than by manual labor, which, we find, is a great convenience and labor saving device.

The three necessary elements which enter into the drying of brick or tile, as you well know, are *temperature, air circulation and humidity*. The Proctor system is a scientific application of these three principles, together with the knowledge and ability to control them as the different stages require.

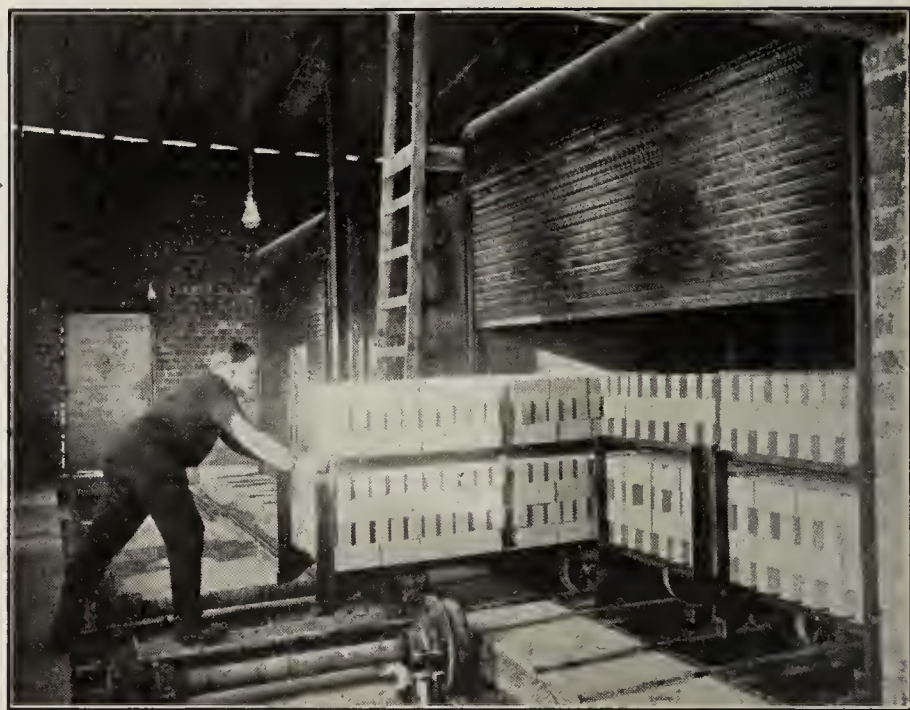
The fact that we can automatically control not only the temperature and humidity, but the volume and velocity of the air, and the amount of saturated air to be removed, and also can have different conditions in different sections of the dryer, enables us to do the things that other systems have failed to do.

We make a scientific study of each installation, and while we use the same principles, we do not always use them in the same way, and therefore, when you buy a Proctor dryer you are having a machine built and planned for your particular product and to deal with your individual problem.

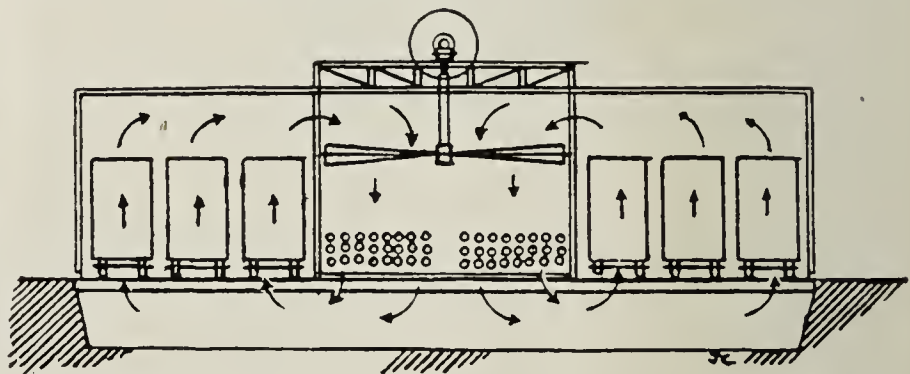
The different principles of the Proctor system have been in vogue in one form or another for centuries. The steam heat-

ing principle has been used for years in the steam dryer. The circulation of air to a certain extent has been used in both the steam and waste heat system. The humidity principle is used to a certain extent in both of these systems, but they do not have any way of controlling it, but 'simply' depend upon the moisture that comes from the material itself to prevent its too rapid drying. In either of these systems where the air and evaporation are carried through the entire length of the dryer and over the green ware, we oftentimes find a deposit on the brick which, perhaps, is not noticeable to the naked eye, and in a majority of cases, is not known to the manufacturers themselves, yet it will develop in the burning process to such an extent that it makes the product of second quality. The Proctor system which does not allow the green ware to come in contact with the dry heated air, prevents this damaging effect.

We have successfully dried clay products which have never been artificially dried before, and in some cases, we have reduced the drying time from eight (8) months down to one (1) month, and, in other cases, from thirty or forty days down to thirty or forty hours. In order that you might realize some of the difficult problems that we have solved, I am going to show you some slides of different installations which, I believe, will be of interest to you.



Proctor Dryer at Harbison & Walker's Plant at Wallacetown, Pa.



Section of Dryer Used for Stiff Mud Brick.

1. This slide will show the feed end of the Proctor Automatic Stoveroom. The ordinary method of handling this particular ware is to make the plate on the plaster paris mould, place the mould in a room with shelves and heating coils usually at the bottom and without any circulation of air. In some cases it requires twenty-four (24) hours to dry the plates. A drying time of five (5) hours is the best that has even been accomplished by turning some of the moulds twice a day, but this is not often done with our system. The plaster paris moulds, carrying the plates, are placed on the shelves which travel through the machine under a positive circulation of air, and the plates are ready to be removed from the mould when they reach the delivery end of the machine, which takes about one and one-half hours.

2. This slide shows the delivery end of the stoveroom, where the girl removes the plate from the mould and does the finishing. The empty moulds then return underneath the machine back to the feed end, through a drying chamber where the moisture is removed from the mould itself and it is ready for refilling.

3. This shows sanitary porcelain ware of various thickness placed upon the trucks, ready to go into a Proctor dryer. Sani-



tary ware has always been a very difficult problem to successfully dry.

4. This shows the cars carrying the ware going through the dryer, and you will also note the inner curtain partially lowered which shows the manner in which we oftentimes divide our dryers into various compartments where a high humidity is desired. In the old method, it usually required approximately ten (10) days to dry this ware and this machine has demonstrated that the ware can be dried in twenty-four (24) hours.

5. This shows the ordinary glass pots, some of which weigh approximately 3,000 lbs., and, in former methods, required approximately eight (8) months to thoroughly dry, it being necessary to cover up the crown of the pots with a wet cloth in order to retard the drying of the thinner walls. This is one of the most difficult drying problems that we have ever encountered.

6. This slide shows the general construction of the pot, base of which is between 4 inches and 5 inches in thickness, side walls tapering from 4 inches to 5 inches in thickness, the crown being less than 2 inches in thickness, and the neck of the pot is approximately 8 inches in thickness. These pots have been dried very successfully in a Proctor dryer and the pots thus dried have shown by tests in the kiln to stand a much longer rate of burning.

7. This slide shows a high tension electrical insulator with a varying thickness of one-half inch on the fans to approximately 3 inches in other parts and formerly required thirty-five to forty (35 to 40) days to dry, but are now being dried in our machine in approximately thirty to forty (30 to 40) hours.

8. This slide shows some heavy electrical porcelain pieces placed on the cars going through the dryer. The material is so delicate that it was necessary to equip the trucks with rubber tired wheels so as to eliminate all possible vibration.

9. This shows a carload of strain insulators, which is a very difficult material to dry in that the center is made of a

usually use for stiff mud brick where they are stacked on the cars, as well as drain tile or hollow tile. In a majority of cases we reverse the fans so that at one time the air is blown down through the trucks and as they move forward under the circulation of another fan, it is blown upward through the ware and downward through the coils.

16. This slide shows the construction of fans and coils, and also shows how the air is reheated each time as it passes through the fans in practically the same manner as the machine with fans and coils on the side.

17. This slide shows an overhead fan type dryer which is located at Norwalk, Ohio, and is similar in design and operation to those just shown.

18. This shows an installation at the plant of Harbison-Walker Refractories Company, Wallacetown, Pa., and also the truck moving device. The brick in this dryer are made from plastic fire clay and weigh nine (9) pounds, being approximately 2½ inches thick, and are dried in approximately twelve (12) hours.

We now have two machines under construction which are going to operate with using the waste heat from the kilns. One of these machines will be used for blowing the air "crosswise" in the machine and the other will be the "up and down" circulation. We do not have these machines developed to the extent where we can give you any great amount of information regarding them, but hope within the next few months to have these machines operating equally as successfully as our steam coil machines have, and hope to accomplish the same reduction in drying time as we have with the other system.

Knowing what I do about the Proctor system, together with the practical experience I have had in the manufacturing end, leads me to believe that within the next few years the Proctor dryer will become recognized as a necessary part of a clay plant's equipment where a uniform or quick drying is of importance.

(Applause.)



General View of the Plant of the Arkansas Brick and Manufacturing Co., Little Rock, Ark.

solid ball of clay approximately 4 inches in thickness, and the outer edges only about one-half inch thick. These insulators have been successfully dried for the first time in an artificial manner with our system. It was necessary to introduce additional humidity in the air so as to retard the drying of the thinner parts until the thicker part of the insulator had become thoroughly heated.

10. This slide shows a dryer in actual operation handling difficult drying insulators. This shows a general view of the dryer, belt drives, temperature controls, etc. It illustrates the possibility of drying ware of different thicknesses and sizes in the same dryer without decreasing the efficiency of it. This is a side fan type machine and the air is blown crosswise through the material on the trucks and is virtually the same type as we are using in various brick installations where the horizontal circulation is desired.

11. This slide shows a cross section of a dryer, showing coils and the side fans with the air blowing crosswise, and illustrates how the air is reheated each time it goes through the fans.

12. This slide shows a floor plan of the dryer and the manner in which the air is being recirculated.

13. This slide shows a dryer of similar construction to the one previously shown of the insulators which is being used for drying brick. This dryer has reduced the drying time from approximately three (3) days down to twenty-four (24) hours. This is a side fan type and the air is blown directly across the material, as previously explained. This type is generally used when ware is placed on pallets.

14. This shows a floor plan of a different type with the fans located in the center of the dryer and the trucks on either side where we secure the "up and down" circulation, as you will see in the next slide.

15. This shows the fan blowing the air downward through the coils and up through the ware on the cars. This is the type we

Vice-President Wilson: The discussion of this paper, according to our program, is to be led by Mr. Jay Terry. I do not believe Mr. Terry is present just now. This subject of drying brick and tile is one that is certainly a very old subject and a very interesting and important matter in the manufacture of brick. Is there any one here who would like to talk on the subject? There seems to be no one desiring to speak on this subject. So we will take up today's program, the first number is "Making Brick and Tile in Arkansas," by W. W. Dickinson, of Little Rock. Many of you know Mr. Dickinson, for he has been a regular attendant for some years past. He is the largest manufacturer of brick in his state. He suggests that the slides be shown and then if you want to ask any questions he will be glad to answer them.

#### MAKING BRICK AND TILE IN ARKANSAS

By W. W. Dickinson, Jr., Little Rock, Ark.

Mr. Chairman and Gentlemen of the Convention:

Back in 1916, before the war broke out, we had (and still have), four plants, one at Little Rock and three within a radius of fifty miles from Little Rock.

When the war started all four plants were in first-class condition and running smoothly. As you all know, following the outbreak, there was a great depression, and we all had the blues, but on the heels of this depression came such prosperity that it caught us all unawares. It was run and



make all the brick you could. You did not have to sell them, they sold themselves. Then it became next to impossible to get repair parts and it was a makeshift to keep the machinery going.

one at Little Rock. After figuring what it would take to put the plant in shape again it was decided to add a little more money and build an automatic plant with the setting machine, put up a shed with the overhead crane and do away



1,200-Foot Kiln Shed, Capacity 10,000,000 Brick.



View of Plant from Clay Pit. Knoll in Foreground is a Pile of Clay.



Clay Granulator Under Shed. Clay Pits in the Background.

Then we could not keep our kilns in repairs (of which we had fifteen, holding 500,000 each), as bricklayers were scarce and we did not want to take them away from the contractors. So after the rush passed we found we had made quite a lot of money, but our plants were in bad repair, especially the

with the old kilns altogether. We worked out a kiln which is in sections and can be moved from place to place with the overhead crane. This has proven a great success. For burning 300,000 brick a day we need but three of these portable kilns, as the only time we use them is when the



brick are burning and cooling. This is something which any brickmaker would be interested in seeing as it eliminates any upkeep on kilns. We intend to make all of our brick on this one plant and discontinue the manufacture on the others. (Applause.)

Following are a few views taken at the plant.

Vice-President Wilson: This has been very interesting. Does any one desire to ask Mr. Dickinson any questions on this subject, or to say a few words?

Mr. C. P. Oudin: I would like to see a picture of the setting machine.

Vice-President Wilson: That is to come later. The next

the association. I have attended all with the exception of perhaps two.

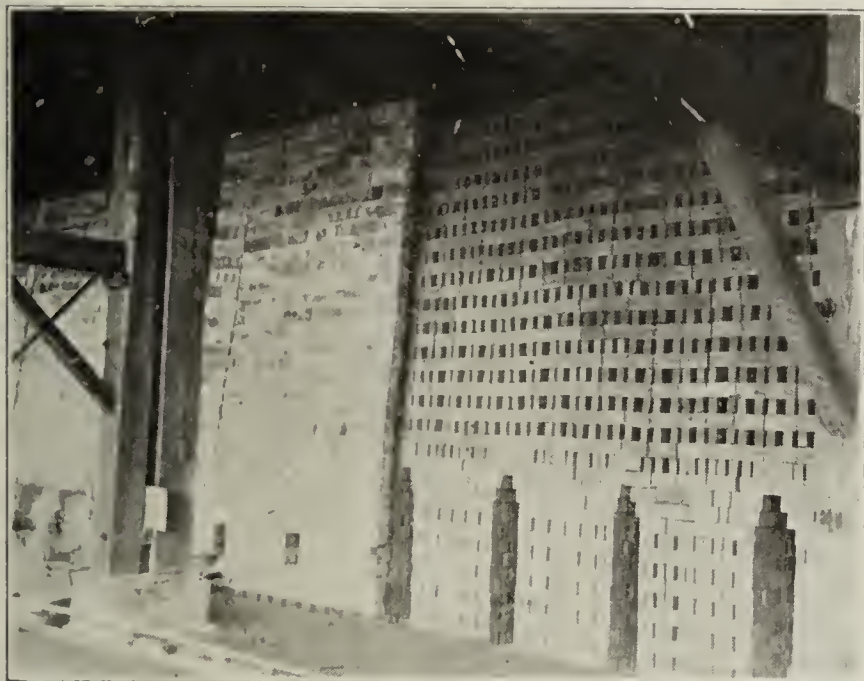
### MECHANICAL HANDLING OF BRICK.

By Raymond C. Penfield, Chicago, Ill.

The secretary of this Association dropped into my office in Chicago recently and suggested that I say something at this convention about the mechanical handling of brick.

I have never been on the program of this Association very much in the last thirty years, and I am very glad indeed to have this opportunity of explaining the method of the mechanical handling of brick at this time, since the question of the cost of brick is so important, not only to the brick industry, but to the community at large, due to the shortage of houses, that any device that will reduce the cost of brick and eliminate labor, of which there is at present so great a shortage, is exceedingly timely. I will only discuss today the setting of the dried brick into the kiln and the taking of the burned brick out of the kiln and placing them on trucks or cars.

This first picture shows the universal method of setting brick in the kiln, where you will notice a tosser is standing on the dryer car and throwing two bricks up to the setter, who catches them and places them in the kiln. In the lower half of this picture you see how with our brick setting ma-



A Kiln of Green Brick with a Section of Portable Scoving in Place.



Old Style Scove Kiln.

address is "Mechanical Handling of Brick," by Mr. Raymond Penfield, another gentleman who needs no introduction.

Secretary Randall: Mr. Penfield's father was a charter member of this association, and Mr. Penfield himself started in when he was quite young.

Raymond Penfield: My father was a charter member of this association, and I was also.

Secretary Randall: He was in short pants then (laughter).

Mr. Penfield: I think with one or two exceptions I have a record of attending as many meetings as any member of



Green Brick in Kiln Ready for the Portable Scoving.

chine we pick up at one operation a full dryer carload consisting of between 750 and 1,000 brick and place them in the kiln with one operation. The first saving here that will appeal to you is the saving in labor, but at the same time do not overlook the saving in breakage, for, as you are aware, the man who sets the brick in the kiln by hand does not handle them any too gently, and quite a number of brick are broken when being placed in the kiln in that way, while in the setting machine they are placed down carefully and there is absolutely no breakage at this point.

This machine, as well as all of our automatic machines, are fully covered by patents, and in addition to the patents on many features of the machine itself we also have a method patent.

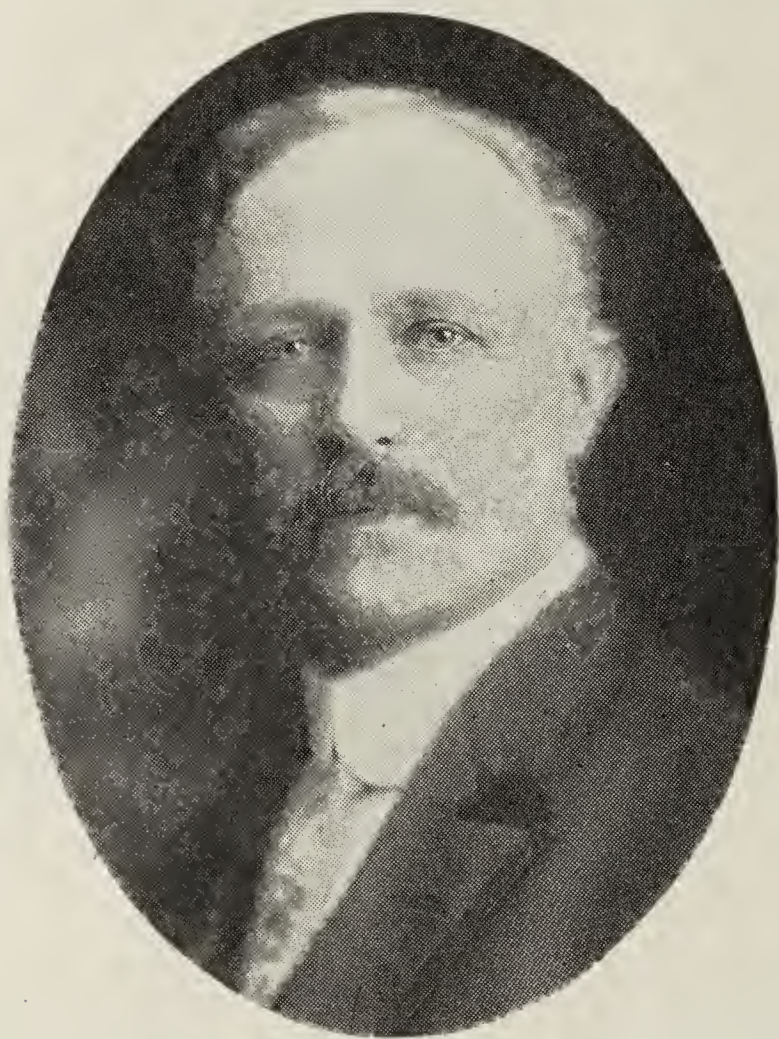
The next picture that I will show you is the arrangement of the decks of the dryer cars. Here you will notice that there are small holes at regular intervals in these decks. These holes are placed here as a guide for the belt boy. When he hacks the bottom row of brick on the cars he must be careful not to cover up any of the holes, but to place the lower row approximately in the center between the holes. This leaves the spaces into which the fingers of the setting machine are inserted preparatory to picking up the load. In all other respects this dryer car is the same as used in most brick yards.

My next picture is that of an electric transfer car. It was found that the setting machine set the brick so rapidly that the production of the yard could be very considerably in-



creased by the use of one of these electric transfer cars, which you will notice carries three dryer cars of brick. The brick in this way are brought rapidly up to the kiln. The transfer car is also used for taking the empty cars back again. Actual practice shows that a yard needs fewer dryer cars when setting brick mechanically, due to the rapidity with which these dryer cars can be returned to the belt.

My next picture shows the front view of the setting machine. This machine has a number of fingers which are inserted in the spaces left, as already explained, in the bottom row of brick on the dryer car. On each of these fingers you see there is a series of grip plates. As soon as the fingers are inserted in these spaces and the machine is raised by the crane all the weight of this load, except the grip courses, rests on the top of these fingers. The weight of this superimposed load on the fingers causes these grip plates to be automatically pushed out and exert sufficient pressure on the bottom row brick to hold them in place. This load is then raised by the crane and placed in position in the kiln. As soon as this load finds its resting place in the kiln the weight of the brick, of course, is released from the setting machine. The pressure of the grip plates is thus



Raymond C. Penfield, Chicago, Ill.

automatically released and the fingers are perfectly free to be withdrawn.

This system of setting brick in the kiln is used universally in Chicago and Milwaukee. We are also expecting to make an installation very shortly in Little Rock, Ark., for our good friend, W. W. Dickinson, Jr.

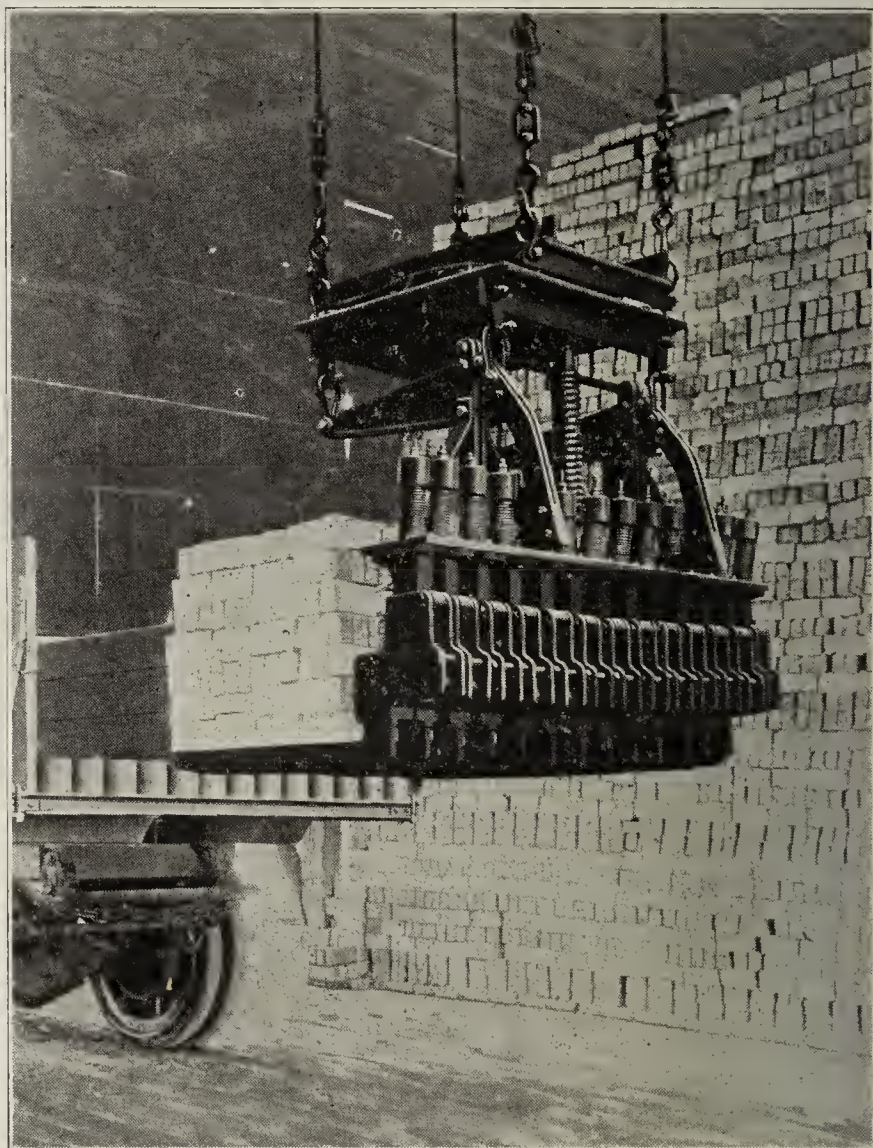
I have a motion picture of this setting machine which I will show after I finish explaining these lantern slides, and I want you to take special notice that in one of these pictures the crane operator has become so expert in the matter of picking up these brick and placing them in the kiln that in one instance he is doing it without the aid of any man on the ground to guide the fingers of the machine into the slots or to get the load in exactly the right spot when placing it in the kiln. Of course, we would not advocate this in rapid working, as it is always advantageous to have a man on the ground to guide the fingers into their proper place and then again to see that the load is placed tight and flush against the previous load which has been put in the kiln.

In addition to setting the brick with this machine, we have a smaller machine that picks up one row of brick instead of four rows, as you have seen in these pictures. This machine is used for placing double coal brick around the entire outside of the kiln. After the double coal brick

is placed the kiln is scoved and platted in the usual way, and is then all ready for burning.

The next machine that you see here is one of our latest developments, and which has recently been put into operation in the Chicago yards. This machine is used for taking from 750 to 1,000 brick out of the kiln at one operation. The setting machine, as you have already seen, places a load in the kiln, and this machine takes exactly the same load out of the kiln. In Chicago, where this machine is in use, we have considerable settle in the kilns. In order to overcome this settle when taking the brick out of the kilns this machine has been developed. Each of the fingers operates independently of the others; in fact, very much like the fingers of your hand.

In this next view you see the fingers of this machine being inserted into the face of the kiln. The machine is then raised and the same load that the setter put in is now being taken out by this machine and placed on the truck ready for delivery. In actual practice we find that while loading a truck of three thousand brick the teamster just



Loading Brick on Trucks Mechanically.

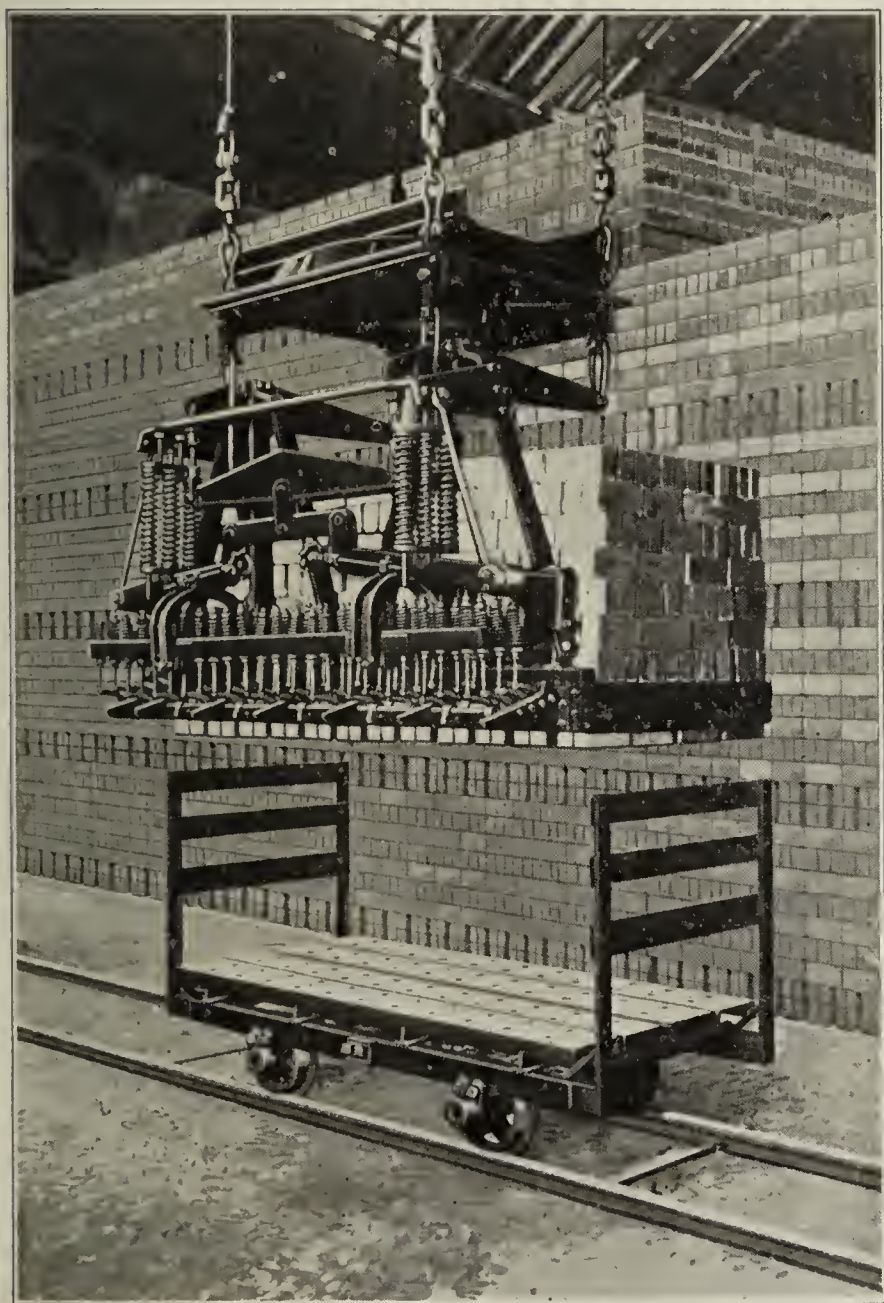
about has time to have his ticket made out and get back to his machine ready to start delivery; in other words, from the time the empty truck stops under the kiln shed until it is ready to pull out again with a full load of three thousand brick, about 5 or 6 minutes have elapsed. In addition to being a great labor saver, the brick are in better condition when delivered at the job; in other words, there is no breakage when loading with a machine, while when loading by hand there are quite a number of brick broken, due to the handling of the same. This difference is so noticeable that a prominent contractor in Chicago, who had been receiving some machine-loaded brick, when he received a load of hand-loaded brick said to the teamster, "Don't bring me any more of your hand-loaded brick; I want your machine-loaded brick." The hardest problem we have had to contend with in the mechanical handling of the burned brick from the kiln is the loading of the same in a box car.

This next picture shows how we have also solved this problem, where you will notice that in front of the kiln we have a platform with small cars that just hold a setter load of brick running on tracks, these tracks leading directly into



the box car. This platform is supported by small jacks. The purpose of this is to raise the end of the platform to such an angle that there is a slight slope towards the railroad tracks. This makes it very easy indeed for a man to push these cars containing a setter load of brick into the railroad car. You will also notice at each end of these small cars we have a second set of wheels running at right angles to the wheels which take the load of brick into the box car. As soon as this load of brick is pushed into the box car a lever is pulled which lets down these end wheels and raises the middle ones. The car is then pushed on these end wheels at right angles and is easily placed in such position so that the men (you see standing in this car from which, for the sake of the view, the side has been removed) can stack the brick in the box car. We have in this manner entirely done away with the tossers and wheelers and thus eliminated a great trouble experienced on many brick yards,

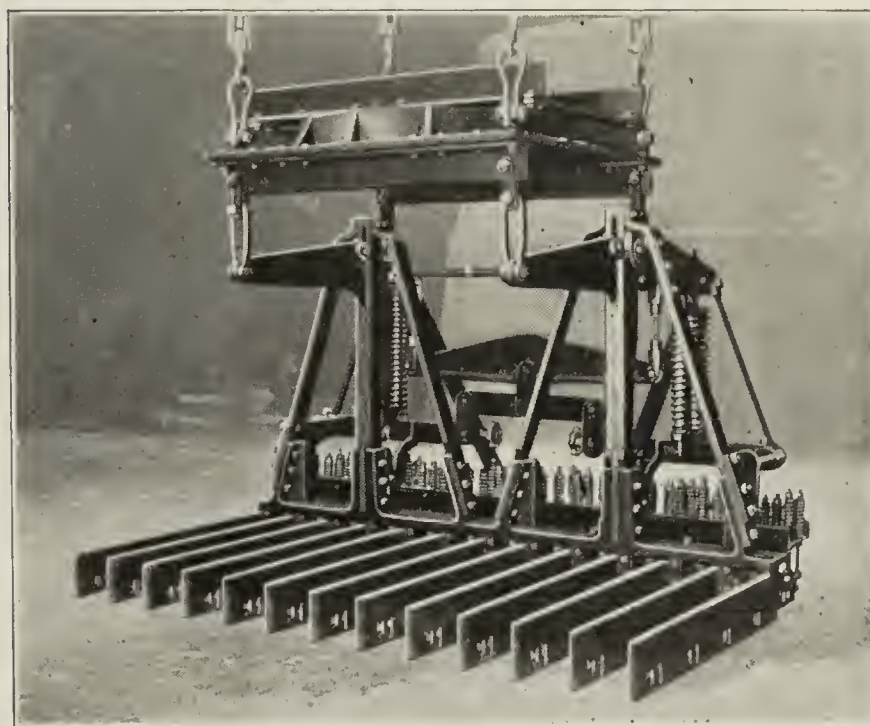
rest of the brick, but there are so many less bats when the brick arrive at the job that, as I have stated previously, the contractors in Chicago, where our loading system is in use, much prefer a truck of machine-loaded brick to a truck of hand-loaded brick. At one of the yards where we have one of these machines in operation a fleet of ten automobile trucks, each holding three thousand brick, is kept busy with absolutely no waiting to be unloaded outside of the time it takes for the teamster to get his ticket and instructions, and actual practice shows that the delivery capacity of each truck is doubled, the enormous saving of which is apparent to you all. I am told by some of the brick manufacturers that are using these machines that they are now making



Brick Setting Machine in Operation.



Taking Brick from Kiln.



Front View of the Mechanical Brick Setter.

for, as you are all aware, sometimes you have cars and the wheelers and tossers don't show up, and then again the wheelers and tossers are there and you don't have freight cars, whereas the machine is always there and you do not have to have experienced men, and the minute your car is placed you can start loading with any labor that is around the yard.

There is one thing that I would like to state at this time, and that is that from the time that the belt boy hacks the green brick on the cars to the time that the burned brick are being placed in the railroad car the brick is not touched by hand at any stage in its manufacture. This new method of setting brick in the kiln and taking the burned brick out and loading in railroad cars or trucks we have worked out and perfected and are ready to put in operation in anybody's yard that wants it done. It not only saves time, reduces cost, eliminates labor, but it also saves a load of bats. If there happens to be a bat in the kiln it goes along with the

from 40 to 50 thousand more brick per day, with less labor, less trouble and less cost, than they were able to make before our machinery was installed.

Mr. Chambers: Have you reached any conclusions as to the minimum daily capacity that would probably be profitable to speed this appliance? You are setting, of course, where brick are made in unusually large quantities, and I was wondering if you had formulated any limited capacity where the system would be practical.

Mr. Penfield: This is a very practical question. I would say there is no reason why the system should be limited to large capacity yards. This system can be adapted to a yard of 50,000 a day or 100,000 a day, and would work very nicely, because the machine can not only set the brick in the kiln, but take them out of the kiln, and one or two operators



could do that work to a very great advantage. The manufacturers in Chicago found it not only increased their capacity and made them money, but enabled them to get help at times—a time when it was impossible to get help—for the men like to work with the machine. They take a pride in it. I believe a capacity of 50,000 a day can be worked out, so a better, cheaper brick can be made. I would be glad to answer any other questions, and as soon as the moving picture man comes I will show you pictures of the machine in action. (Applause.)

Secretary Randall: I think it would be well, while we are waiting for the moving picture man to hear the next paper on the program. It is also illustrated and we can use the machine operator. It is a paper on "The Chicago Method of Burning Brick," by Frank B. Lambert, of Chicago. We are indebted to Mr. William Schlake of the Illinois Brick Company for this paper, which, I am sure, you will find very interesting. Mr. Lambert, too, is an old time member of the association, and is a past master in the art of burning brick.

#### THE CHICAGO METHOD OF BURNING BRICK.

FRANK H. LAMBERT, CHICAGO, ILL.

*Gentlemen of the Convention:*

I have been asked to give you a talk today upon the method employed in Chicago of burning brick. I think this title should have been changed and called "The Method of Burning Brick as Employed by the Illinois Brick Company," since naturally, I am much more familiar with the way our own company burn

steam. This combination of oil and steam is thrown directly against a burned brick placed about 18 inches inside the arch hole. This brick we call a target. The object of this target is to facilitate the igniting of the oil, for, as you are all aware, oil when sprayed out through these burners will not ignite properly until the temperature of the surrounding air has been raised.

The target quickly gets hot and helps considerably to heat the air in the arch hole, which is necessary to do in order to keep the oil burning. At first we turn the steam-oil on very slowly on one side of the kiln and with a torch, we light this entire side of the kiln, which keeps about three men busy for one hour constantly lighting these jets until sufficient heat has been generated in the arches to keep the burners going. I must admit that this sounds like a very crude way of starting the fire, but up to the present time we have not been able to develop anything to take its place.

This reminds me of a story, however, that shows just when we don't want a thing to ignite it is sure to do so, for there was an account published in the New Orleans Times-Picayune, dated Cleburne, Texas, October 19, which reads as follows:

"One cow exploded and another died as the result of gulping gasoline here Monday afternoon.

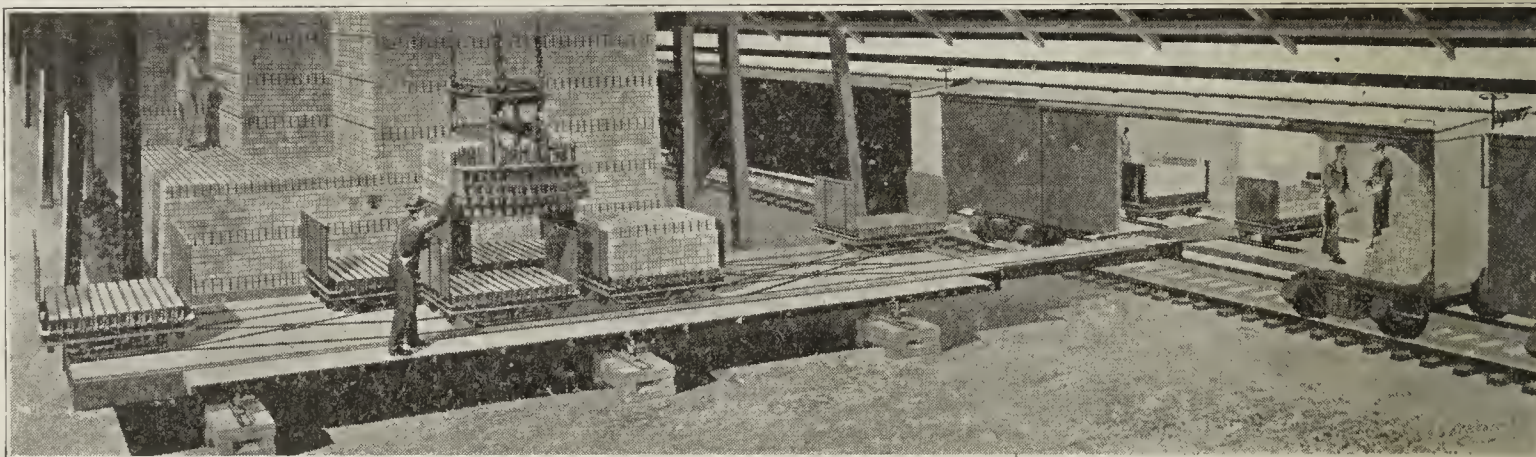
"The cows lapped up a tub full of gasoline which stood before a local garage. It was necessary to take drastic measures if lives were to be saved.

"Taking a long steel instrument the veterinary punctured the side of one of the animals. Gasoline started to trickle out. The medico turned aside for a moment and lit a cigarette. His patient exploded with a black cloud of smoke.

"Strange to say the gasoline exploding did not kill the cow which cavorted madly down the road with a jet of flame spurt-ing from its side. The animal was caught and the blaze extinguished. It will live.

"The other cow, which was not punctured, died."

However, cows are now beside the purpose.



Method of Conveying Brick Mechanically from Kiln to Box Car.

rather than the way other companies in the Chicago territory do their burning, for the brick in Chicago is not all burned in exactly the same way.

The size of the average kiln set by us is 52 brick wide at the bottom and 48 brick high. We have four brick bottoms in between the arch holes and a 16-inch arch hole. The arches are eight brick high, the jet being started with the fourth brick and, of course, closed with the eighth. We make our kilns to 20 to 30 arches. The four sides of the kiln are encased with a course of double coal brick so as to facilitate the burning of these outside brick. We use about 240 pounds of hard coal screenings to the thousand brick for this purpose. The kiln is then scoved with burned brick and daubed. The top of the kiln is platted with burned brick laid tightly together so as to hold the heat.

I should mention at this point that our brick in Chicago is set in the kilns differently, I believe, from the manner in which it is set in any other part of the country. As you may know, we use the Penfield Setting Machine in Chicago, and since its introduction we have found that the spaces left by the fingers of the setting machine and also the absolutely uniform manner in which the machine sets the brick both combined create a much more uniform circulation throughout the entire kiln, which coupled with our new system of burning, a complete description of which I am about to give you, enables us to burn a kiln very much quicker and with a positive saving of about 40 per cent of the fuel used over that consumed with our old burning system when the brick was set by hand. At this point I want to emphasize most strongly the fact that to get an even and economical burn we must first of all make sure of a good even circulation throughout the kiln.

I have had some lantern slides made by means of which I will endeavor to thoroughly explain to you the method we employ.

Before showing these, however, I should state for those of you who may possibly be unfamiliar with the burning of brick with oil, that we force the oil through a jet by means of live

After we get our oil jets finally burning on this one side of the kiln one man alone can take care of this, while the other two perform the same function on the other side of the kiln.

I will now show you by a few lantern slides exactly how our heat travels through the kiln.

This first slide that you see represents the kiln at the end of the sixth hour period, from which you will notice that the heat has not as yet reached the center of the kiln and the temperature at the seventh brick from the bottom has now been raised to 800 degrees.

It is about this time that water smoke has formed which creates what we call a blanket and holds the heat from rising in the kiln too rapidly; this water smoke is still further assisted in its function by the tight platting which we put on the top of the kiln. It is only about six hours before the kiln is entirely burned that the last of this water smoke disappears.

In the next slide which shows our kilns at the twelfth hour period, you will notice that the heat has traveled the whole way across the kiln, the temperature at the seventh brick has now been raised from 800 degrees to 1610 degrees, while at the 14th brick it has been raised from 220 degrees to 700 degrees.

This next slide shows the set of the kiln at the end of the 18th hour period, when the temperature at the 7th brick from the bottom has been raised to 1,900 degrees, so these bottom brick have now been burned completely. The temperature at the fourteenth brick from the bottom has been raised from 700 degrees to 1,300 degrees. You will notice from this slide of the 18-hour period that the heat has risen to about the 24th brick from the bottom. At this time the kiln usually shows a slight settle and indicates there is heat enough to burn the balance of the brick in the upper half of the kiln. Of course, every kiln will not burn exactly the same, so we have to watch the settle very carefully so as to be sure that as soon as this settle commences we turn off our oil and inject the steam and air, but we find that it is always somewhere near the eighteenth hour period. It is at this stage of the burning that we turn the oil off, insert our air

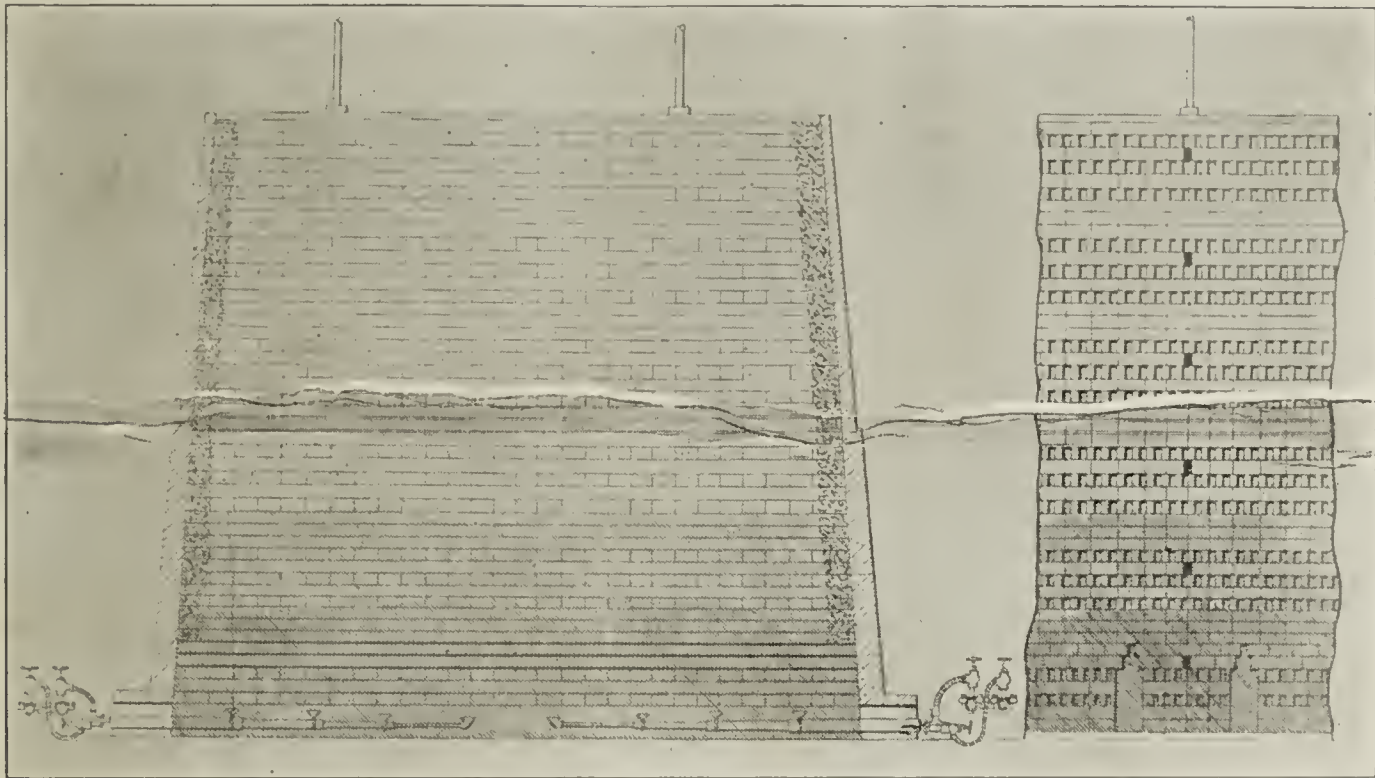


pipes in the arches and start blowing in steam. This to my mind is the most interesting stage in the burning of a kiln.

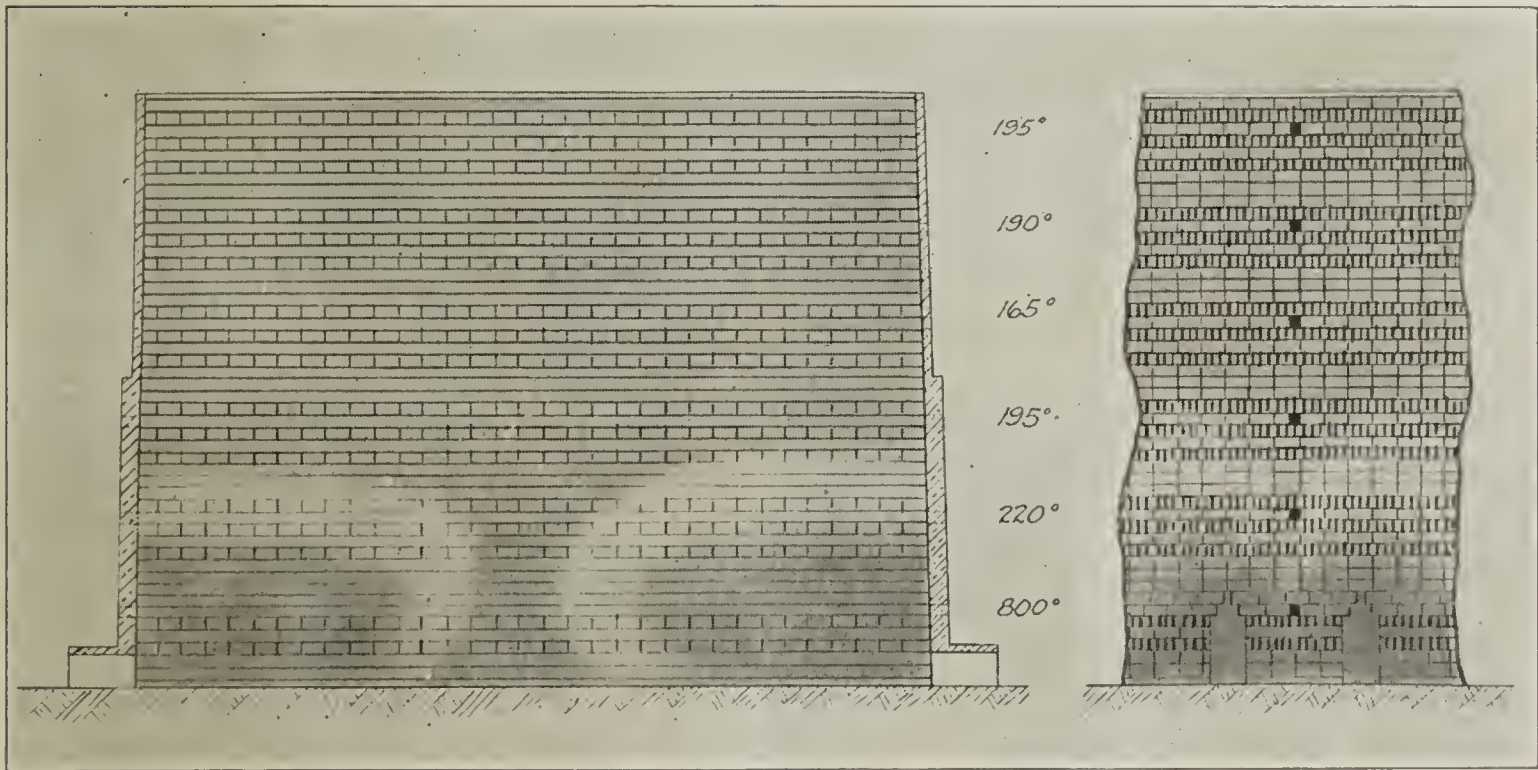
This next slide shows the position of the steam jet and air pipe. This air pipe is inserted in the arch of the kiln after the oil has been turned off. You will notice that there is a small opening between the steam jet at the extreme left and the place where the air pipe starts. When the steam is turned on it acts as a siphon and sucks the air in with it. In this manner a combination of steam and air is forced through the kiln and enables us to form our complete combustion. The pressure of this steam and air causes the heat in the lower half of the kiln to advance slowly and burn the balance of the kiln with-

a very peculiar coincidence here that I do not think I am able at this time to explain, and that is at the 35th brick we have a temperature of only 590 degrees while at the top of the kiln it is hotter. The pyrometer here showed a temperature of 630 degrees.

However, these conditions change in our next slide which is the 36th hour period, where you will notice that the bottom brick are still cooling. The 21st brick show the temperature the same 1800 degrees, the temperature here having risen up to 1900 degrees at the 34th hour period. At the 28th brick we see the temperature is now raised to 1360 degrees and we find that at the 35th brick we are now hotter than we are at the top of the



Chicago Method of Burning. Note Jets and Air Pipes, Also Method of Setting.



Kiln at End of Six Hours. Note Heat Has Not Reached Center of Arch.

out any additional oil or fuel of any kind from this point on.

The next slide brings us to the 24th hour period when you will notice that the bottom 7 rows have cooled off from 1900 degrees to 1720 degrees. The temperature taken at the 14th brick shows that the heat has increased from 1300 degrees to 1900 degrees and at the 21st brick it has increased from 480 degrees to 1050 degrees.

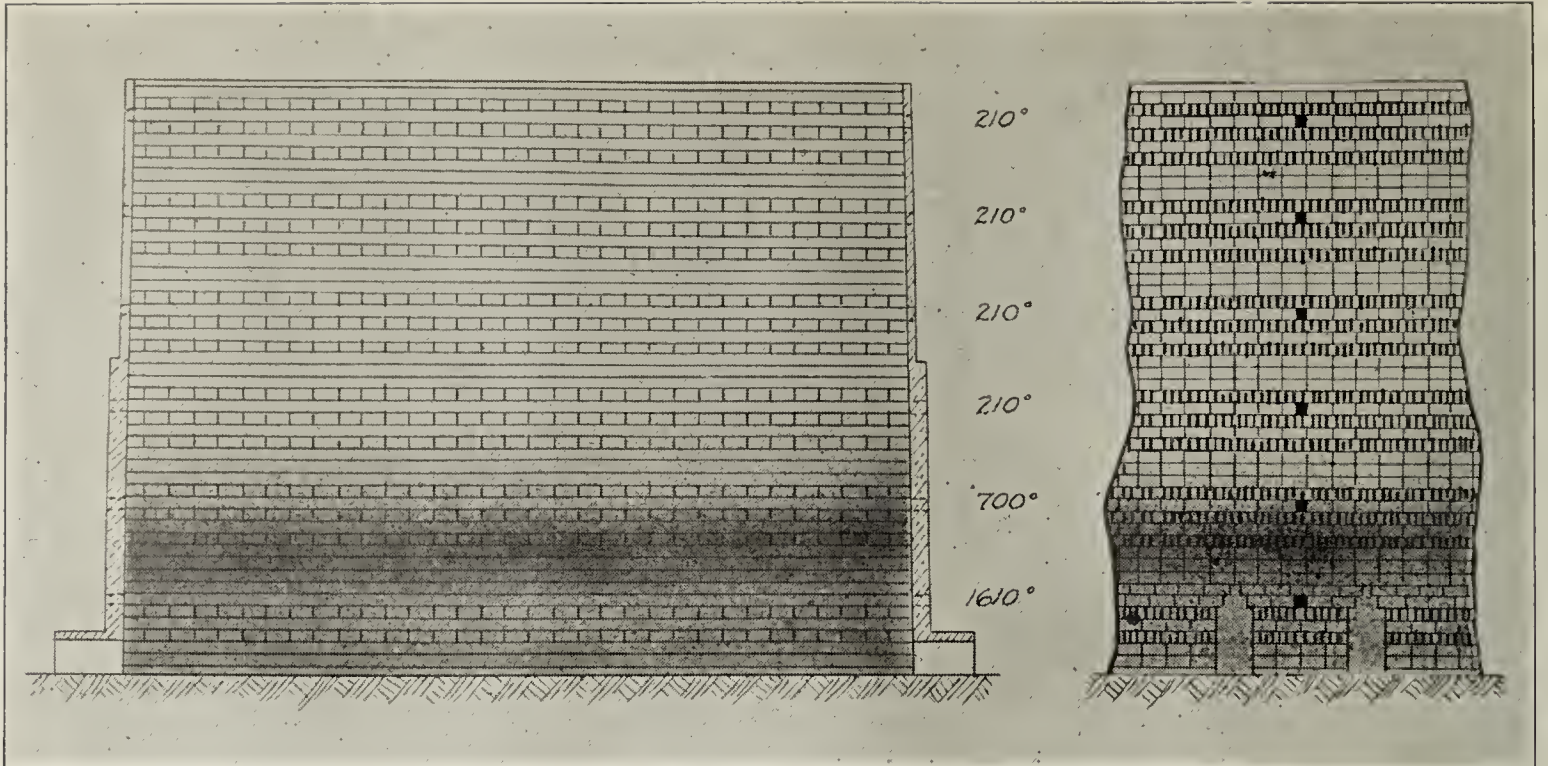
The next slide, which is the 30th hour period, shows that the bottom of the kiln has still further cooled off from 1720 degrees to 1060 degrees. At the 14th brick it has cooled from 1900 degrees to 1760 degrees and at the 21st brick the temperature has now increased from 1050 degrees to 1800 degrees, and at the 28th brick it has increased from 290 to 740 degrees. We get

kiln, namely the difference between 1100 degrees and 1060 degrees.

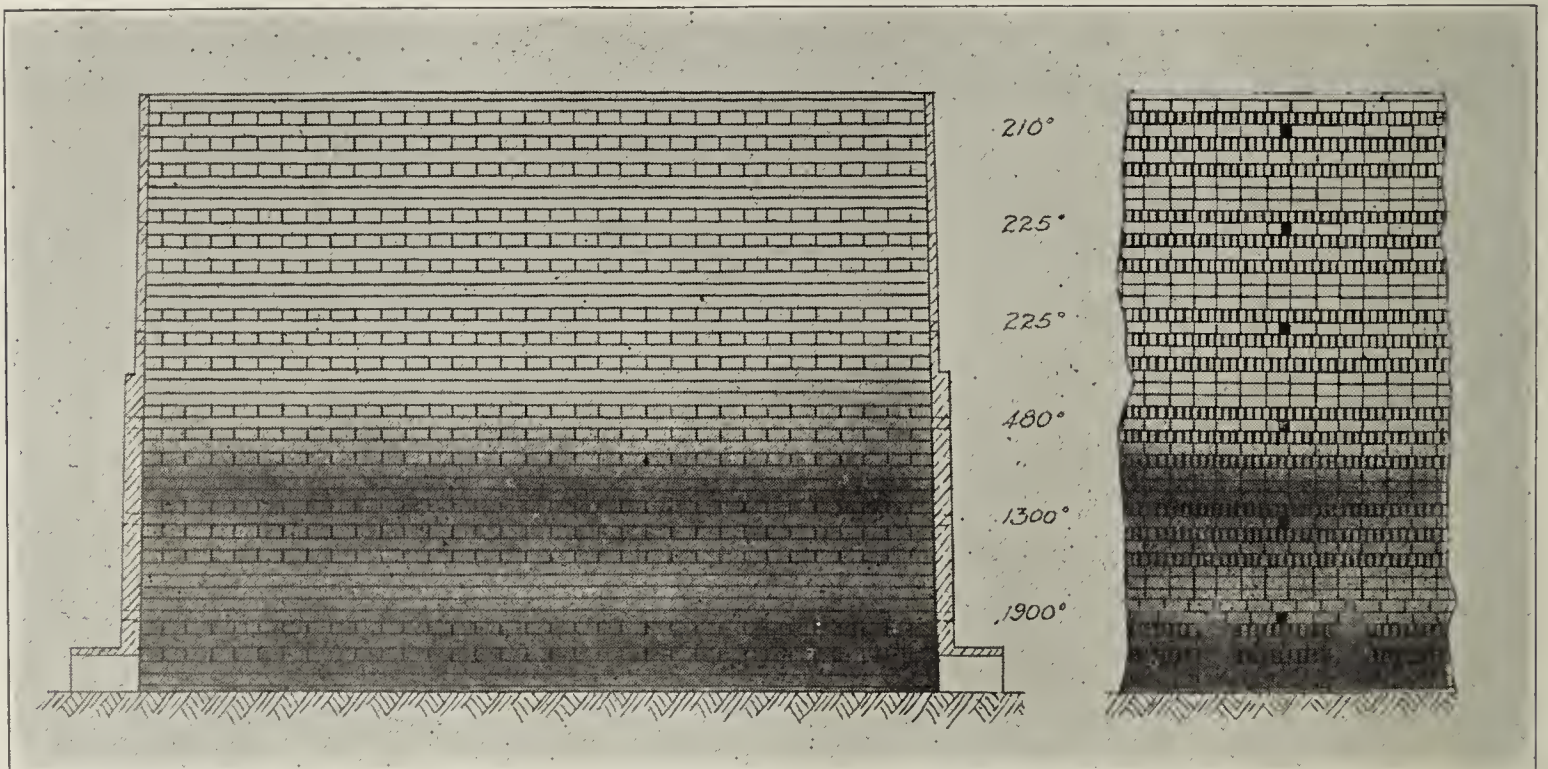
Our next slide shows these temperatures at the 42nd hour period at which you will notice that all the brick except the top course are now burned, for our brick, when the temperature has been raised between 1900 and 2000 degrees are completely burned.

At the end of 44 hours we stopped blowing steam, there being sufficient heat to complete the burning. The 48 hour period, at which time the whole kiln is burned, you will notice the top two courses have reached a temperature of 2000 degrees,

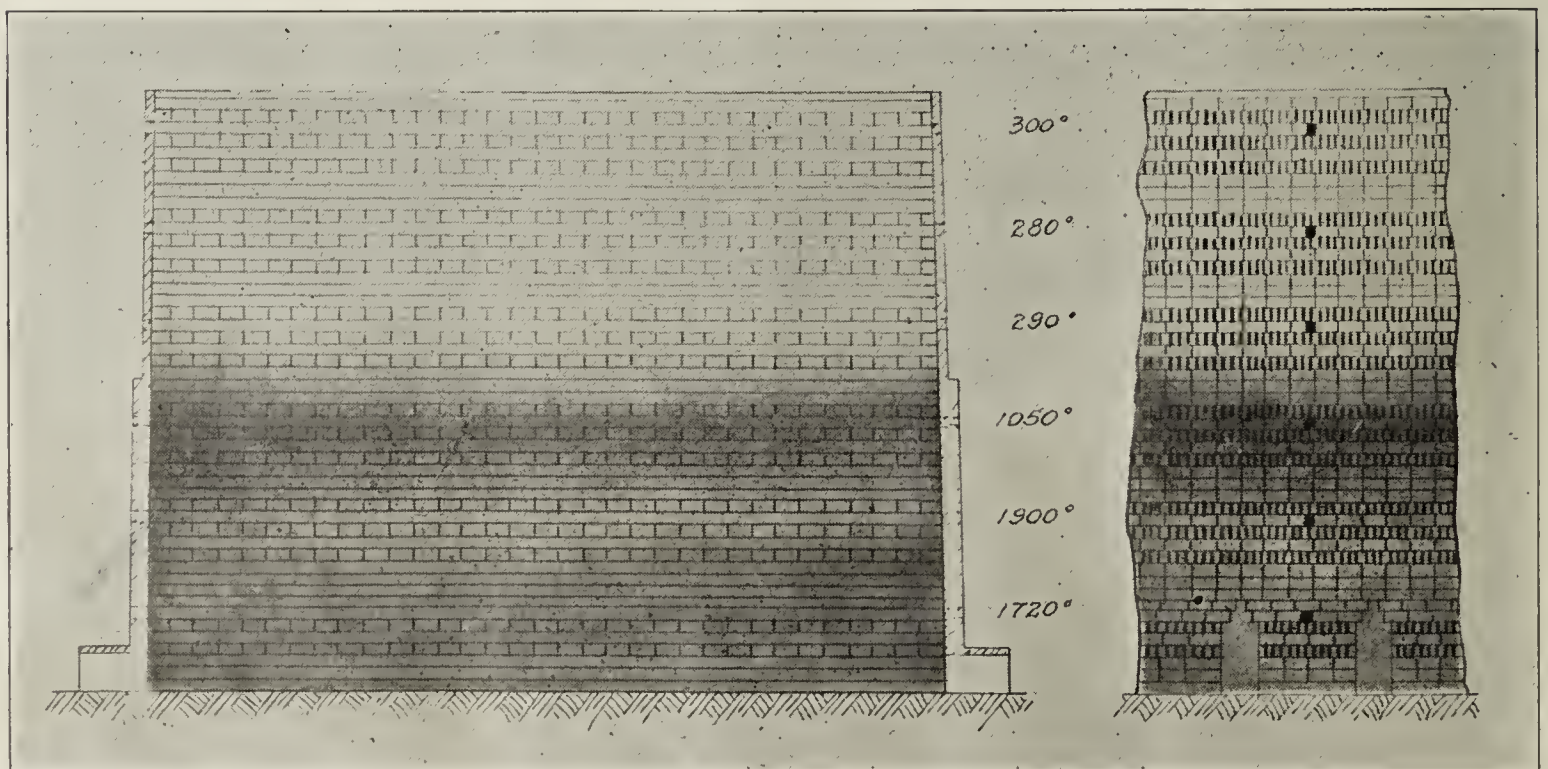




Kiln at End of Twelve Hours. Temperature in and Just Above the Arches Has Reached 1,610 Degrees.

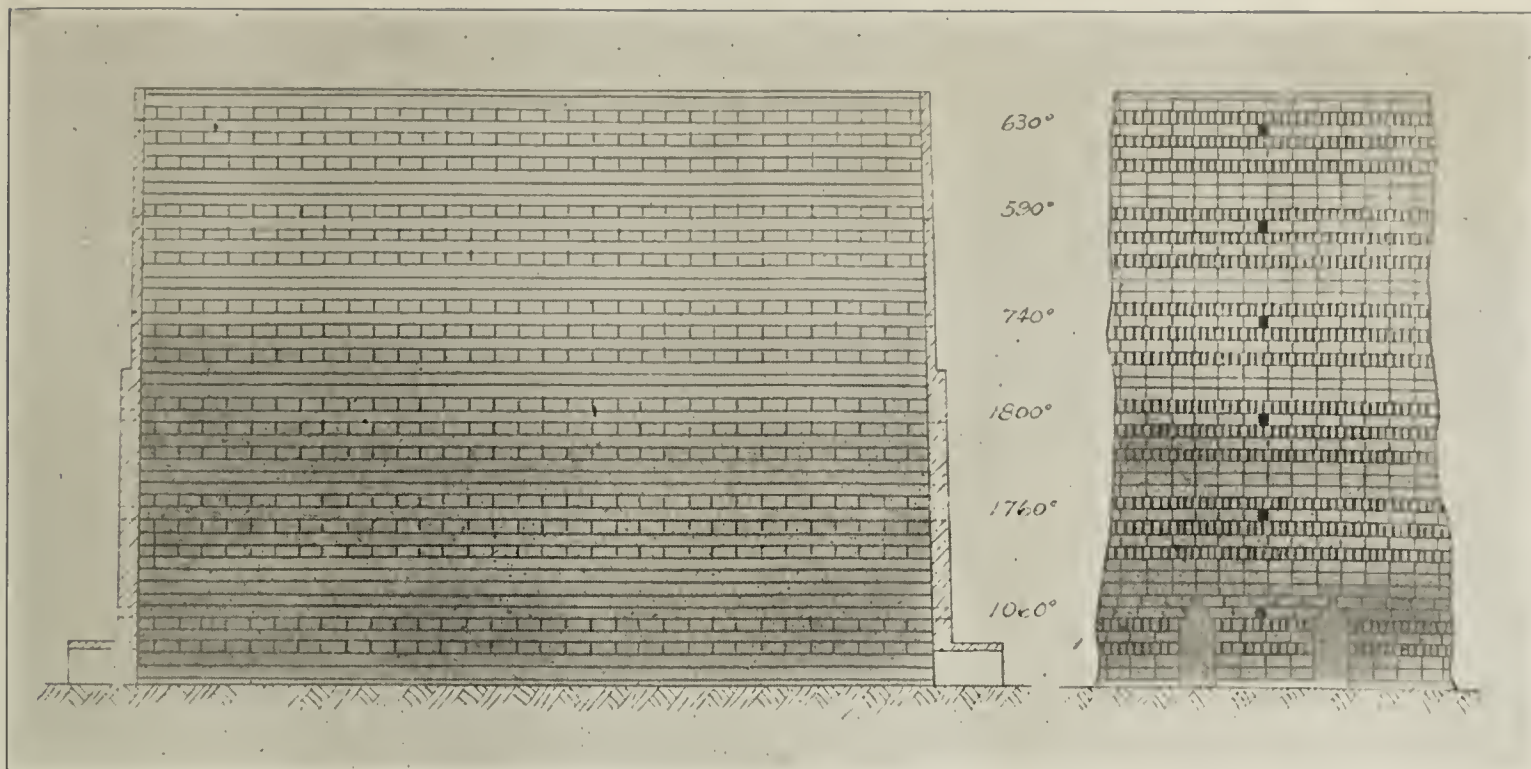


Kiln at End of Eighteen Hours. Temperature in and Above Arches Has Reached 1,900 Degrees.

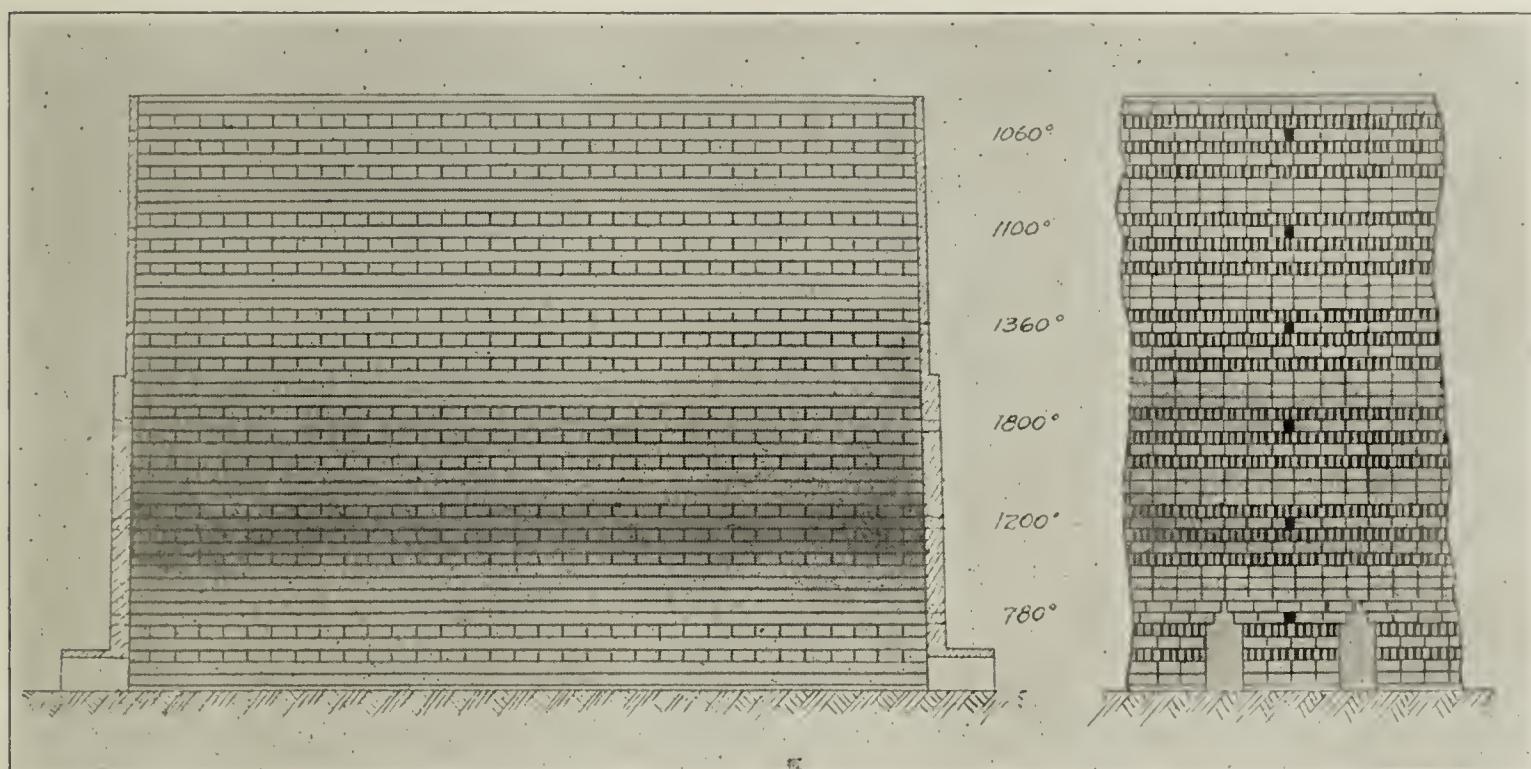


Kiln at End of Twenty-four Hours. Note Brick Are Cooling in the Bottom of Kiln.

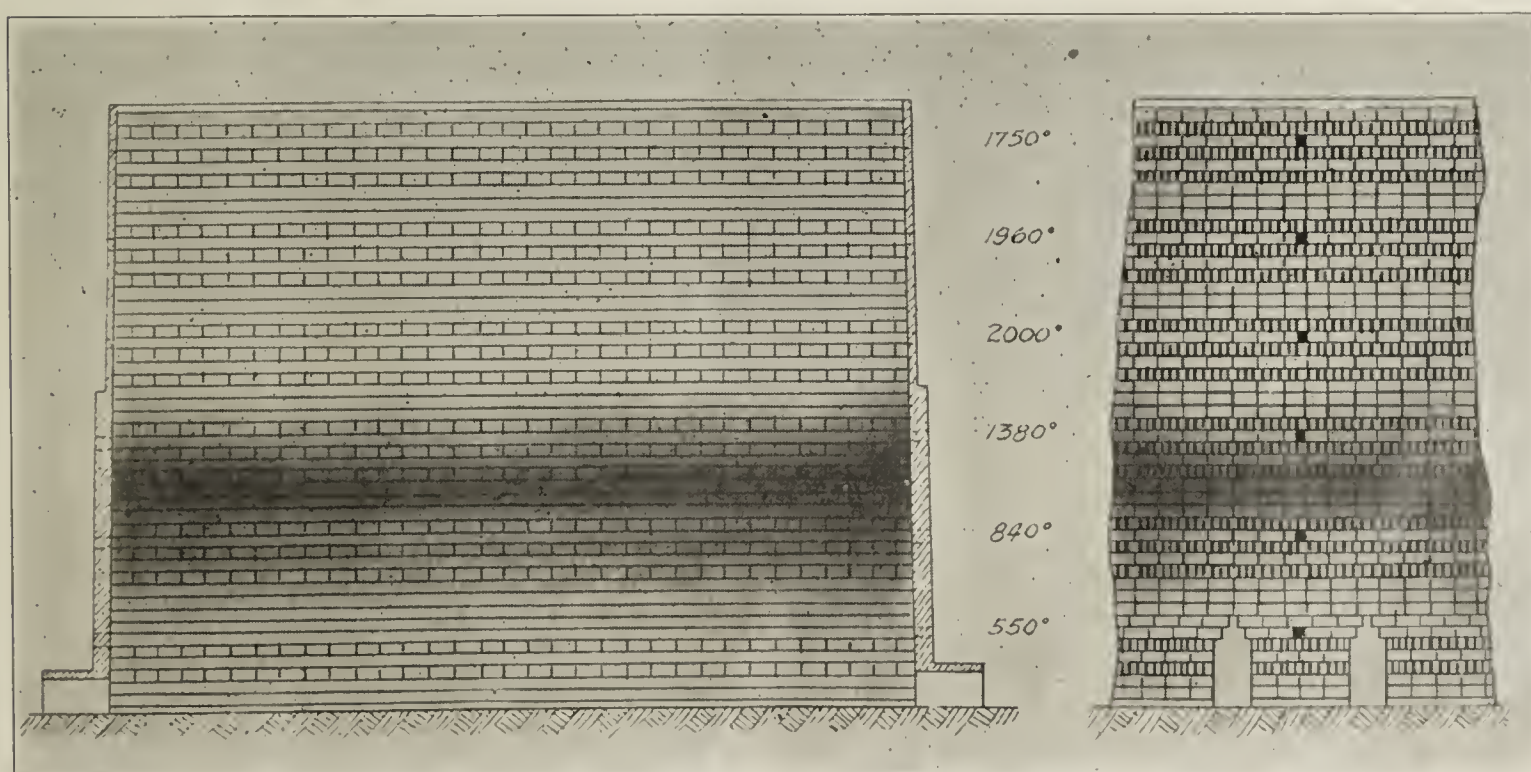




Kiln at End of Thirty Hours. The Highest Degree of Heat Has Nearly Reached Center of Kiln.



Kiln at End of Thirty-six Hours. The Highest Degree of Heat Is Past Center of Kiln.



Kiln at End of Forty-two Hours. Lower Half of Kiln Cooling While Maximum Temperature Is Nearing Top of Kiln.



this kiln having now been burned without the use of any oil or fuel whatsoever since the 18 hour period.

In two of our yards we are burning hard pan with very great success. In fact it averages only 7 or 8 gallons of oil per thousand brick to burn this hard pan, though in our other yards where we are using the top clay to make the brick we find it averages between 12 and 14 gallons of oil per thousand brick. This I attribute to the fact that these top clays are much more plastic than the hard pan.

By the old method of setting and burning we always used between 20 and 25 gallons of oil to burn 1,000 brick while with the Penfield system of setting and our new system of burning we use between 12 and 14 gallons of oil to burn the same amount of brick from the same kind of clay—or a saving of about 40 per cent. in the fuel consumed. (Applause.)

#### General Discussion.

Vice-President Wilson: The discussion of this paper is to be led by Mr. George A. Parry of Boston, Mass.

George A. Parry: I would like to ask Mr. Lambert a question. Would a different fuel, say a combination of coal and wood, under forced draft, say for forty-two hours, and then blow air with steam, would the result be beneficial? If not, why not?

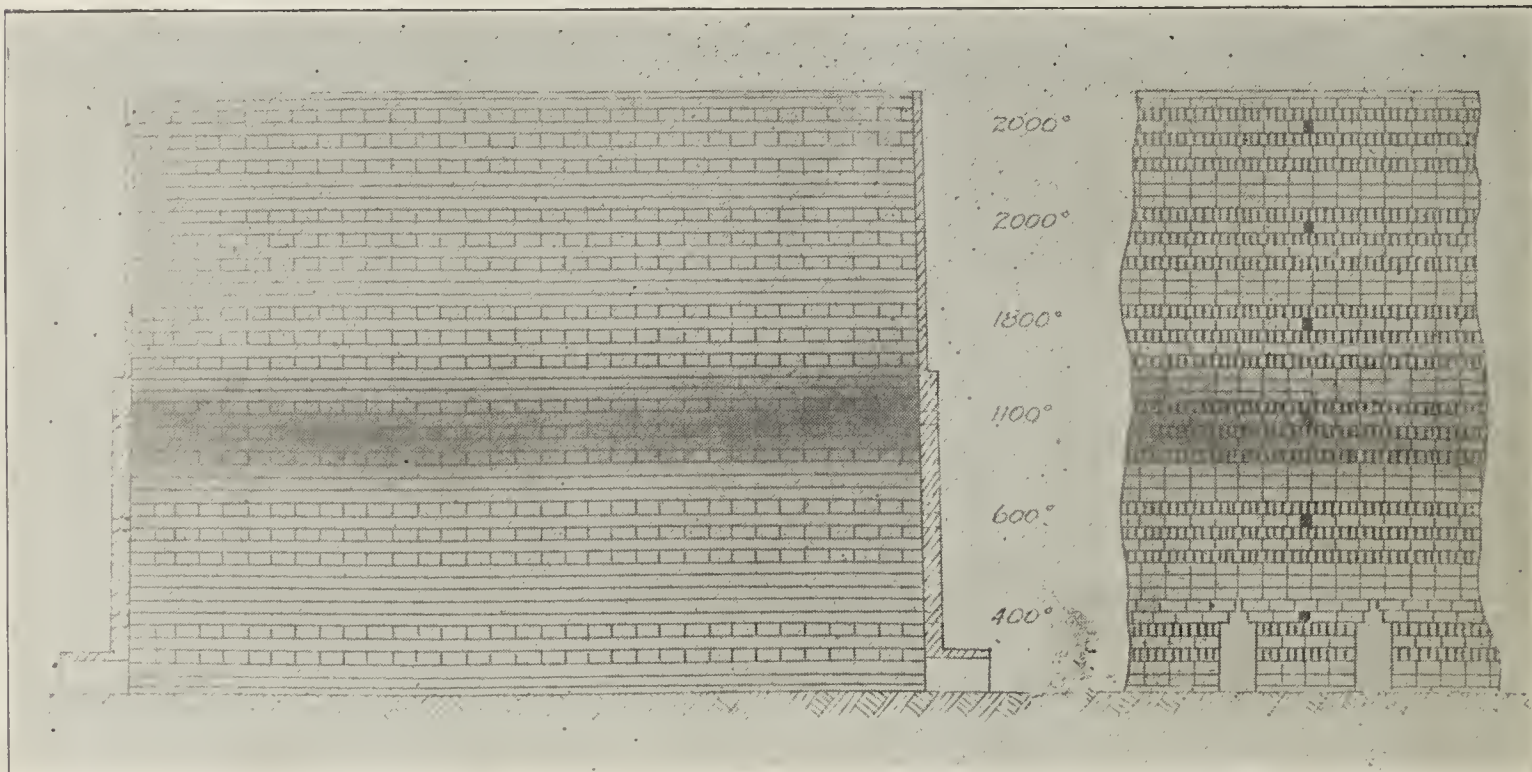
Mr. Lambert: I do not think you burn fast enough. We find in burning with oil that the steam and oil carries enough

coal they can put in without hurting the brick. You will have to get Mr. Long to tell you what they have done with coal dust.

Mr. Lambert: This particular kiln, which was shown on the slides had no coal dust in any of the brick, except the double coal brick, which is the outside course of kiln, and in those we used about 240 pounds of coal to the thousand brick or about four ounces to the brick. In some of our more plastic clays we throw in about three scoops of coal dust to a three-yard car of clay.

Mr. Parry: Most of our burning is done with wood. Wood is a cheaper fuel for us. Some yards in the East put coal dust in their clay. Our clay is so dense we can not. If you put coal dust in our clay you would get a brick as big as a lantern. We put sand in. Your material is rather porous and the gas is freed from it very rapidly. In our clay we can not do that.

Mr. Lambert: We sent for Professor Bleininger, who was the ceramics professor at Illinois at that time, to see why we were burning hard pan with less fuel than top clay. We sent him several barrels of each, which he analyzed and made brick from. His report shows that there was no more



Kiln at End of Forty-eight Hours. Temperature at Top of Kiln 2,000 Degrees, Completing the Burn.

air with it to make good combustion. What we could do with any other fuel I do not know. If you burn a kiln in such a manner to create a draft this system would not work at all.

Mr. Oudin: How much carbon has your clay?

Mr. Lambert: I have no analysis of it here with me, but it is very little. We had trouble in burning our hard pan and in trying to burn that we discovered this way of burning. We succeeded in burning hard pan by blowing air in.

Mr. Parry: Have you succeeded in burning brick anywhere else with this system?

Mr. Lambert: I have not tried to burn brick anywhere else with this system.

Mr. Parry: I have wondered whether it was particularly adapted to Chicago clays?

Mr. Lambert: Our north yard is twenty-three miles north of Chicago and our south yard is forty-five miles south of Chicago and we burn all our kiln the same way.

Mr. Chambers: Is this applicable to gas-fired kilns?

Mr. Lambert: Without a doubt, any fuel that carries enough air for good combustion with it, without having a draft through the kiln.

Mr. Steadman: You know I saw you burning in Chicago. With the New England clay it is a question of how much

carbon or heat-making material in the bottom than in the top clay. That was very important to us, for we had always thought that hard pan had more carbon matter than top clays, and for that reason we could burn it with less fuel.

Vice-President Wilson: If there is no one desires to ask any further questions of Mr. Lambert we will take up the next.

Secretary Randall: As soon as they can get the inspector here Mr. Penfield is going to show his moving picture, but the chairman of the Committee on Resolutions tells me he is ready with their report, and he would like to give it now, if you are willing.

Vice-President Wilson: We will have the report of the Committee on Resolutions. Mr. Loveland is chairman. I think it will be well to consider each resolution as it is read.

#### REPORT OF COMMITTEE ON RESOLUTIONS.

Henry B. Loveland: Mr. Chairman. After due consideration, we, your Committee on Resolutions, beg to submit the following report. The first is in regard to the reciprocal tariff agreement between United States and Canada.



**RESOLUTIONS REGARDING A RECIPROCAL TARIFF BETWEEN THE UNITED STATES AND CANADA.**

WHEREAS, the proper revision of the tariff is one of the very important questions now before the Congress and the Senate of the United States; and

WHEREAS, we believe that the government of Canada is at this time especially interested in and welcoming the idea of Reciprocal Agreements as to the tariff duties, between the United States and herself; and

WHEREAS, the tariff duties on brick going from the United States into Canada are now 30 per cent. ad valorem, with an anti-dumping clause, and from Canada into the United States are only 10 per cent., with no anti-dumping clause;

NOW, THEREFORE, BE IT RESOLVED, That we believe and that it is the sense of the National Brick Manufacturers' Association of America, now assembled at the Pennsylvania Hotel, City of New York, N. Y., that both countries should have no custom duties on brick and no anti-dumping clause, or in any event that both countries should have the same tariff and the same anti-dumping clause, and that any duty on brick should not exceed 10 per cent. ad valorem;



Frank H. Lambert, Chicago, Ill.

FURTHERMORE RESOLVED, That copies of these resolutions be sent to the Tariff Revision Committee and to the Federal Trade Commission at Washington, D. C., and to such other commissions, individuals or committees that may be appointed to enter into and draft reciprocal tariff agreements between Canada and this country.

Dated at the City of New York, February, 1921.

John P. Cahoon: I move the adoption of this resolution.

W. K. Hammond: I second the motion.

Carried.

Mr. Loveland: The next is in regard to the metric system and was submitted by the gentleman who addressed us.

**RESOLUTIONS AGAINST THE COMPULSORY ADOPTION OF THE METRIC SYSTEM IN THE UNITED STATES.**

WHEREAS, An active propaganda is being conducted for the compulsory adoption of the metric system of weights and measures and

WHEREAS, Bills are now pending before the Senate and House of Representatives providing for compulsory adoption and forcible substitution of metric units in place of our established system, and

WHEREAS, We believe that such a radical change would be hostile to the business and industrial interests of this country, entailing enormous cost and confusion without compensating advantages;

THEREFORE, BE IT RESOLVED, That this Association place itself on record as being opposed to the compulsory adoption of the metric system and that it commends the work of the American Institute of Weights and Measures in opposition to such adoption.

R. C. Penfield: I move the resolution be adopted.

Mr. Hammond: I second the motion.

C. P. Mayer: Just a minute on that. The metric system is fast coming into use in all of the world, and I wonder why we should pass a resolution opposing it in this country. I think it would simplify matters so far as figures are concerned, and I would like to have an explanation of the reason why we should consider this.

Secretary Randall: If Mr. Mayer had been present when the matter was presented so well by Mr. Wilson earlier in the session, this matter would be very clear to him, and he would be in favor of this resolution I am sure.

Mr. Mayer: Sorry I did not hear the gentleman.

Motion carried.

Mr. Loveland: The next is relative to the deceased members.

**IN MEMORIAM.**

The following members of our Association have been called home since our last convention: R. G. Eisenhart, Horseheads, N. Y.; Oswald Spier, New York City; Jas. G. Hoskins, Terre Haute, Ind.; Alfred C. Kleymeyer, Henderson, Ky.; J. T. Bramlett, Enid, Miss.; Elton Braddock, Atlantic City, N. J., and D. W. Cox, Harrisburg, Pa.

WHEREAS, Each of these men has been a loyal and faithful member of the N. B. M. A., each having done his part in his chosen field and did it well, their death is a loss to the Association;

THEREFORE, BE IT RESOLVED, That this tribute be spread on our minutes and also communicated to the families of the deceased.

We have just been advised that Mr. Oswald Spier, of New York City, managing director of the National Terra Cotta Society, who made such a favorable impression at our first session on Tuesday morning, died while en route to Chicago to attend the annual meeting of the National Terra Cotta Society. While a member of our own association, he was a power in the Terra Cotta Society, and his death is deeply deplored.

RESOLVED, That this convention assure the National Terre Cotta Society of our deep sympathy in their great loss.

BE IT FURTHER RESOLVED, That the Secretary be instructed to communicate the action of this convention to the Terra Cotta Society and to Mr. Spier's family.

October 27, 1920, our beloved brother R. G. Eisenhart, of Horseheads, N. Y., passed from this life to the life eternal. Mr. Eisenhart has been a member of the National Brick Manufacturers' Association since 1891, and in the years intervening had missed but one convention. He was elected President at Boston in 1903. The place in our Association made vacant by his death we fear will long remain empty, as men of his caliber are indeed few. We shall miss his able council and advice, which he was so willing to give at all times.

BE IT RESOLVED, That we the members of the National Brick Manufacturers' Association in convention assembled in



New York this 4th day of February, 1921, hereby extend to his dear wife and family our profound sympathy and assure them that their loss is our loss and in their great bereavement we commend them to Him who Mr. Eisenhart knew and loved and served so well in his daily life.

Mr. Hammond: I move the adoption of this resolution, and want to say in doing so, that in regard to the resolution relative to our dear friend R. G. Eisenhart, I approve thoroughly, for I knew and loved him. When we met R. G. Eisenhart, we had a feeling that: "Here is a man whom it is desirable to know, with whom it was an education to associate." As that acquaintance ripened we came to know he was a man of courage, of conviction for the right; that he lived up to the courage of his convictions.

Secretary Randall: I second the motion and echo the sentiment so well expressed by Mr. Hammond.

Vice-President Wilson: I will ask you to adopt this with a rising vote. The resolution is adopted.

Mr. Loveland: This is all with the exception of acknowledgement to local committee.

WHEREAS, As an organization, and as visitors to this great city we are deeply indebted to the local brick manufacturers for the many courtesies extended to us; therefore, be it

RESOLVED, That the sincere thanks of the National Brick Manufacturers' Association be tendered to the local Committee on Entertainment, who contributed so generously to our comfort and happiness, and we wish to particularly mention and thank the officers of the committee, Mr. W. K. Hammond, Mr. John R. Young, Frank DeNoyelles, and Alfred Pettit, for their entiring efforts. We will ever remember these gentlemen and their associates with grateful appreciation.

W. D. Richardson, Columbus, Ohio: I move the adoption of this resolution by a rising vote.

Oatley Wilcox: I second the motion. Carried.

Chairman Loveland: Whereas, the facilities afforded us for the conduct of the business of the conventions have been exceptionally satisfactory: The convention hall, registration room, and other accommodations so necessary for the carrying out of our convention work have proven in every way adequate, and but for the congested condition incident to immense throngs of visitors, always prevailing in New York City at this season of the year, which made it impossible for the hotel management to accommodate our entire membership; therefore, be it

RESOLVED, That the thanks of this association is due to Manager Statler and his assistants for the accommodations afforded us.

E. C. Shimer: I move the adoption of this resolution.

Mr. Somers: I second the motion. Carried.

Mr. Loveland: This report is signed by the members of the Resolution Committee.

H. B. Loveland, Buffalo, New York, Chairman.  
H. H. Stafford, Georgia.  
Harry Clippert, Michigan.  
W. H. Lucktenberg, Ohio.  
Rufus P. Morton, Minnesota.  
H. T. Wynn, Pennsylvania.  
Oscar Zimbal, Wisconsin.  
Richard Leek, Utah.  
Kenneth McMillan, Georgia.

Vice-President Wilson: Mr. D. Knickerbacker Boyd advises me he has a resolution which he desires to present.

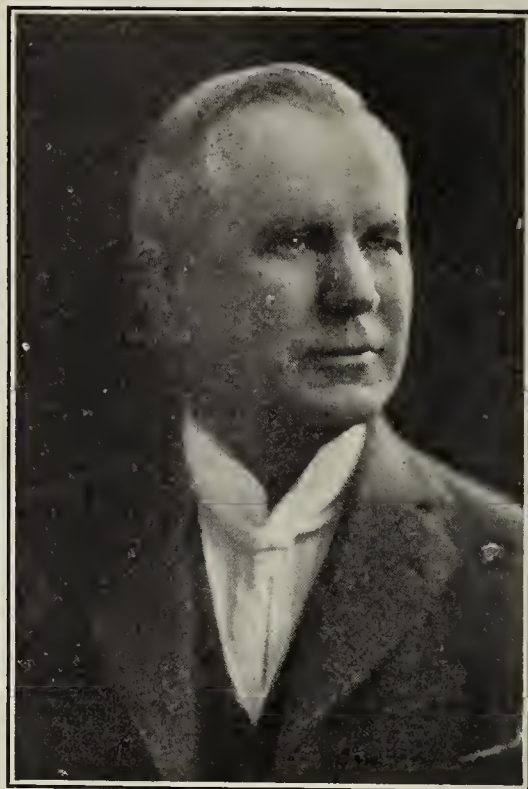
D. Knickerbacker Boyd: I understood an opportunity would be offered for the presentation of a joint resolution. I was exceedingly gratified to have Mr. Alexander express the thought he did last night. Mr. Stoddard suggested I present this resolution because I had written it and he could not read it. (Laughter).

#### RESOLUTION PERTAINING TO BETTER CO-OPERATION WITH RESPECT TO BRICK MANUFACTURERS, CONTRACTORS, BRICKLAYERS, AND ALL FACTORS IN THE BUILDING INDUSTRY:

WHEREAS, the National Brick Manufacturers' Association and Common Brick Manufacturers' Association of America have had presented to them instructive facts and valuable data in connection with the economic aspect of continuity of employment in the building trades, of the necessity for the co-ordination of all structural activities and for effecting greater efficiency in the building industry, and

WHEREAS, the interesting developments which have been brought to our attention indicate that improved conditions and better understanding in these directions are now under way in certain localities and in our opinion, should be continued and extended, therefore be it

RESOLVED, That the N. B. M. A. and C. B. M. A. endorses the essential features of the letter of the Secretary



Ex-President W. D. Richardson, Columbus, Ohio.

of the American Institute of Architects, January 14th, 1921, addressed to all Chapters of the Institute and to all State Societies of Architects, calling attention to the co-operation between architects and bricklayers and other crafts in Philadelphia and that the N. B. M. A. and C. B. M. A. urge all brick manufacturers, brick-mason contractors and bricklayers throughout the country to offer to participate with architects, engineers and others to the fullest extent in similar enterprises in all localities to the end that co-operation may be effected in educating apprentices, informing journeymen, and improving conditions in every way possible with respect to the art of brickwork and the craft of brickmaking and brick-laying, and be it further

RESOLVED, That the N. B. M. A. and C. B. M. A. suggest to the National Federation of the Construction Industries that it call together in each locality a group to constitute a congress or council of all factors interested in the building industry, and that each of our organizations hereby pledges itself to assist in bringing about such co-operation in each locality as will make for better understanding and improved conditions with respect to brickwork and the whole of the building industry.



Mr. Boyd: I move the adoption of this resolution.

Mr. Cahoon: I second the motion. Carried.

Mr. Boyd: I hope this means that the brick manufacturers, brick contractors and layers will now get together.

Vice-President Wilson: What is the next, Mr. Secretary?

Secretary Randall: The next is another illustrated paper, this on the comparative cost of steam and electric power in the manufacture of brick by Mr. C. O. Cordes, of Pittsburgh.

# COMPARATIVE COST OF STEAM AND ELECTRIC POWER IN THE BRICK MAKING INDUSTRY.

BY O. C. CORDES, GENERAL ENGINEERING DEPARTMENT, WESTINGHOUSE  
ELECTRIC & MANUFACTURING CO.

*Mr. President and Gentlemen of the Convention:*

The brick-making industry from a financial viewpoint is the most important branch of the clayworking field. Its success as

an economical business venture depends largely on several factors. These factors are all of importance, and are as follows:

(a) Shale beds, clay pits or mines should be located in the immediate vicinity of the plant site, as hauling and handling of this class of raw material is very expensive.

(b) Coal for power and burning should be obtained from mines close at hand. This insures a constant supply and also low prices due to short hauls.

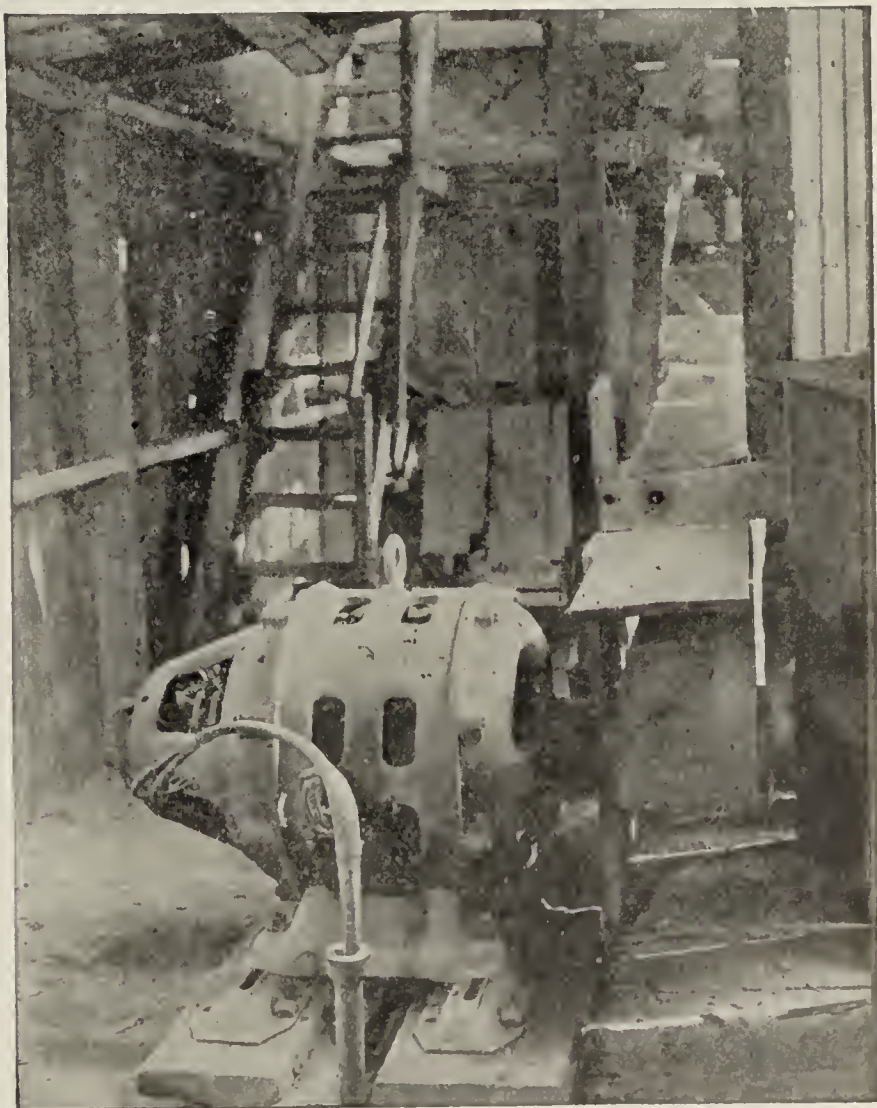
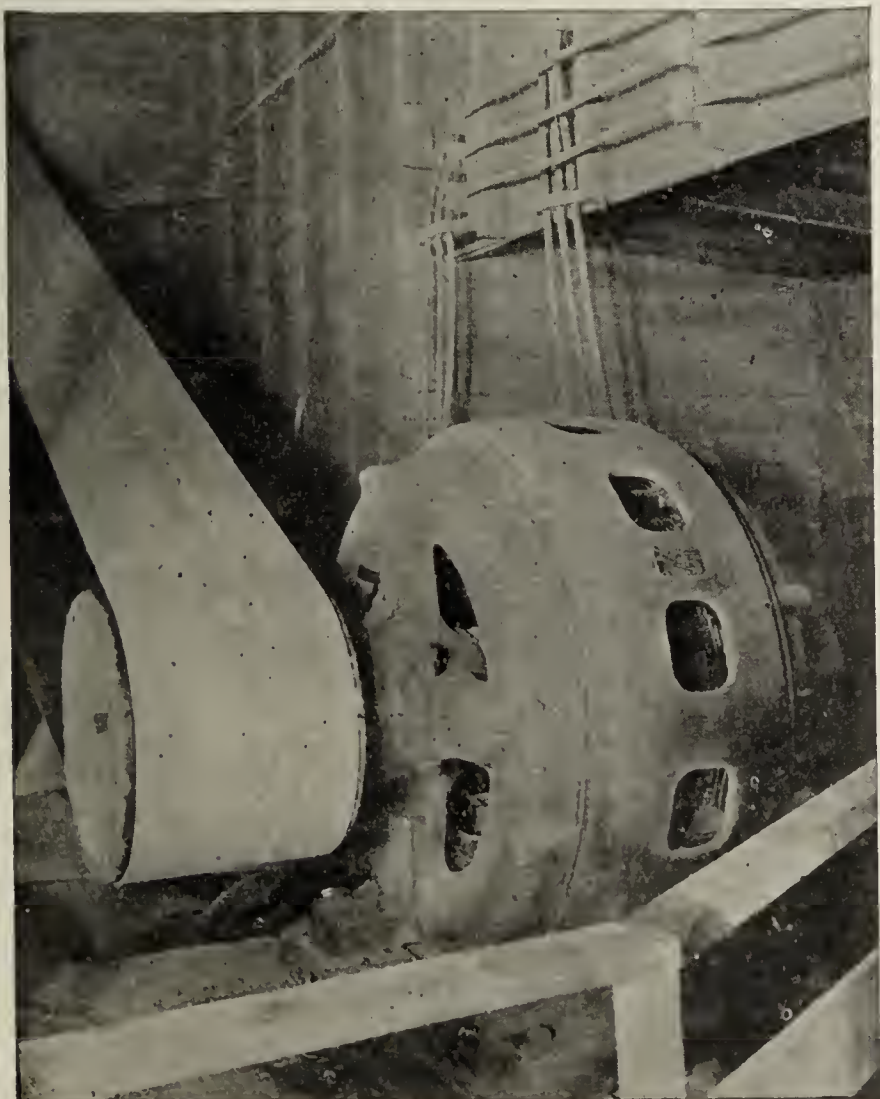
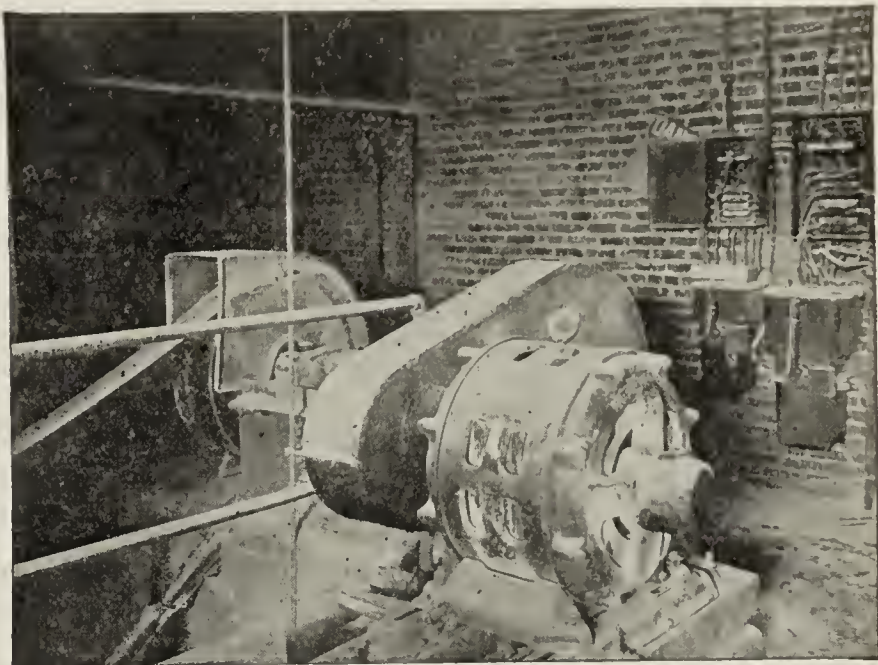
(c) Transportation should be such that markets may be reached without excessive hauling charges.

(d) Labor should be easily obtained, i. e., the plant location must be close to a labor market.

(e) Installation of efficient machinery for handling and manufacture, and for power. This will tend toward a greater output and a lesser dependency upon labor.

(f) An efficient system of machine drive which will increase production and decrease power costs.

It is fully realized that all of these conditions cannot be met,



Several Interesting Applications of Motors to Brickmaking Machinery.



especially in connection with fuel and transportation. However, these things fortunately offset each other, as where coal is cheap transportation is high and vice versa. Also the nature of the raw material is a dominating factor in that a plant using soft mud will require less power than one using stiff mud or shale.

Let us consider some of the several items having to do with power requirements; such as the comparative cost of coal for power and heat in various classes of plants and a comparison of the power costs in steam and electrically driven plants.

The manufacture of brick can be divided into two or perhaps three distinct classes, which depend upon the nature of the raw materials. Each requires its distinct type of machinery, and the energy demand per 1,000 brick varies accordingly.

In soft mud plants, the material has only to be run through a type of pug mill in order to obtain the proper consistency, from which it is passed into the mould presses and thence to the drying system. The power consumption is generally low, owing to the simplicity of the process.

Where the material worked is of somewhat heavier consistency, requiring granulators, pug mills, augers, cutters and conveyors, the power consumption will be higher.

Shales and hard clays will require crushers, dry pans, pug mills, augers, cutters, and necessary conveyors; and consequently will involve a considerable increase in power for manufacture.

The following shows the per cent. of coal used for power, as compared with the total to produce one thousand finished brick.

electric power which is used in the mine and for transfer cars as well as in the plant.

A pressed brick plant will require about the same amount of coal for burning and drying as the common brick plant. The coal required for power per 1,000 of these brick will average about 0.05 tons.

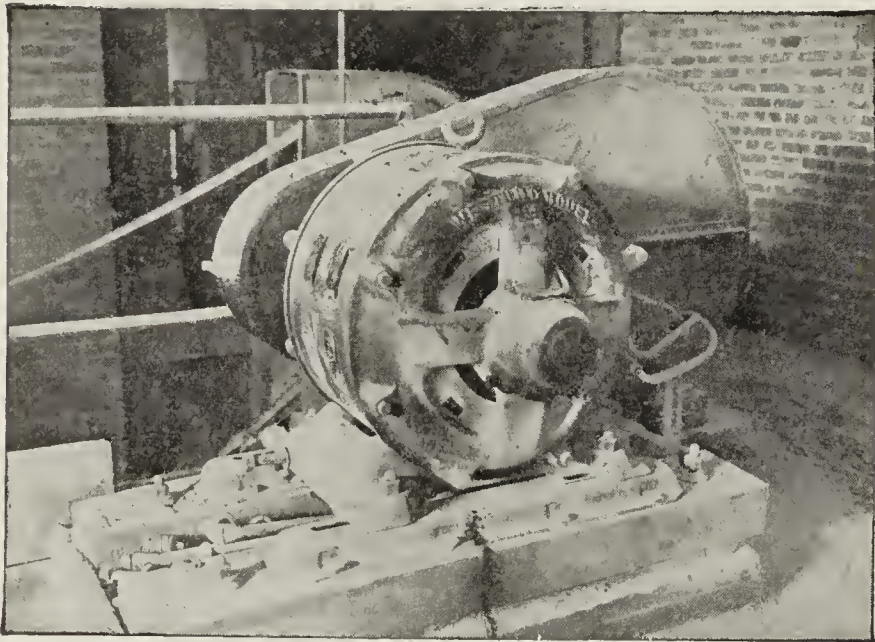
On the basis of a new installation with an output of 50,000 brick per day, the following comparisons between steam and electric drive has been made. The price of coal has been taken at \$4.50 per ton at the boiler and the price of electric power at 2.5 cents per KW. hours. The figures should indicate a fair average price paid by the industry at the present time. Also, it is assumed that the exhaust steam is being used for drying purposes.

POWER COST PER 1,000 BRICK.

| Class of<br>.. Plant                 | Steam<br>Operated | Electrically<br>Operated | Difference | Saving % by<br>Elec. Drive |
|--------------------------------------|-------------------|--------------------------|------------|----------------------------|
| Common face and tap-<br>estry brick: |                   |                          |            |                            |
| Soft Mud .....                       | 0.38              | 0.15                     | 0.23       | 61                         |
| Machine Made ....                    | 1.23              | 0.96                     | 0.27       | 46                         |
| Stiff Mud .....                      | 0.90              | 0.59                     | 0.31       | 35                         |
| Paving Brick .....                   | 1.01              | 0.79                     | 0.22       | 46                         |
| Fire Brick:                          |                   |                          |            |                            |
| Machine Made ....                    | 1.23              | 0.97                     | 0.27       | 46                         |
| Pressed Brick .....                  | 0.30              | 0.16                     | 0.14       | 47                         |

The power cost includes fixed charges on the investment as well as those for coal, electricity and labor.

These figures indicate that for a plant as selected for the above comparison, electric power will reduce the power cost by about 45 per cent. On this basis, the saving per annum, to a plant making 50,000 bricks a day and working 300 days out of the year will be \$3,000.00. Also in case of a break down of the machinery, the electric motor drive can be shut down and no power used until it is again started up.



Type of Westinghouse Motor for Driving Various Clayworking Machines.

This information represents approximately the average of a number of each class of plant operating under normal conditions.

TONS OF COAL PER 1,000 COMMON BRICK.

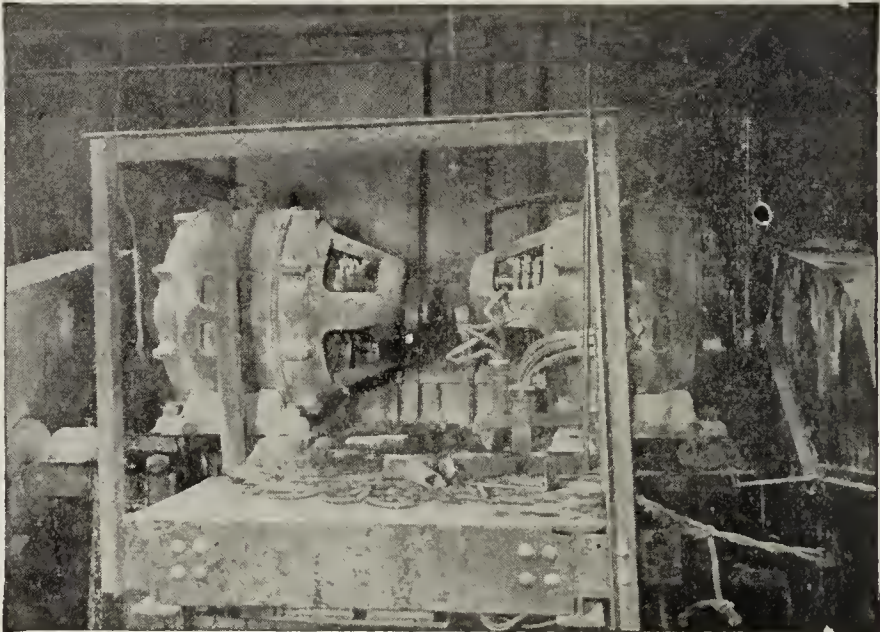
| Class of<br>Plant | Burning and<br>Drying | Power | Total<br>Required<br>for Power |
|-------------------|-----------------------|-------|--------------------------------|
| Soft Mud .....    | 0.1                   | 0.01  | 9.1                            |
| Medium Mud .....  | 0.2                   | 0.04  | 16.6                           |
| Stiff Mud .....   | 0.67                  | 0.09  | 13.4                           |

It is well to note here that the method of drying and burning varies widely in the different plants. Therefore, the coal used will necessarily be governed largely by this factor.

From an analysis of the above, it will be seen that the coal required for power is approximately ten to fifteen per cent. of the total. This is a sufficiently large portion to warrant a consideration of methods of saving in coal consumption.

The division of coal consumption between power requirements and process work is somewhat similar in the tapestry and face brick industries,—the power being increased but slightly by the addition of presses and special appliances—also for the paving brick industry, providing the increased volume of these bricks be taken into consideration.

A fire brick plant making first quality brick will require, per thousand nine inch brick, approximately one ton of coal for burning and drying and from 0.4 to 0.5 tons of coal for power. The greater quantity of fuel used when compared with other brick, may be attributed to the larger volume of material per brick, the higher temperatures and the general use of power throughout the plant. In fact a good many of these plants manufacture



Electric Equipment for Brick Plants.

The curve shown here was drawn with the object of comparing the power required by a 6,000 brick per hour plant when operating at different capacities. It will be noted that the power required when making brick at rate of 3,000 per hour is 100 KW. and at 6,000 per hour, 137 KW. This is at the rate of 33 1/3 and 23 KW. per 1,000 brick respectively. Therefore, it is most economical to operate the plant at full capacity and it may even be advisable to operate for only part time at full capacity where the output exceeds the demand. The reason for the energy consumption per 1,000 bricks being higher at the lower load is attributed to the friction load loss, which when no brick is being made and all machines running idle is 63 KW. This friction load loss remains practically constant throughout the capacity range of the machinery and therefore results in the KW. demand per 1,000 brick decreasing as the capacity increases.

The following lantern slides show several interesting applications of Westinghouse Electric & Manufacturing Company motors to brick making machinery.

(Applause.)

President Dunwody: This is a very interesting and profitable paper, the discussion of which was to have been led by Mr. Eben Rodgers, of Alton, Ill.



Secretary Randall: Mr. Rodgers fully intended to be here, had reservations made for rooms for himself and his family, but was unexpectedly called West on important business. If there is any one here who desires to talk on this subject, or wishes to ask Mr. Cordes any questions, I am sure he will be glad to answer them.

#### General Discussion.

William Burgess, Toronto, Ontario, Canada: Our plant has been run entirely by steam until this summer when we turned from steam to electric power, getting it from Niagara Falls. We have all our fans running twenty-four hours a day, have connected them with Westinghouse motors, and we have found a wonderful saving. It was the most wonderful thing we have ever had on our brick plant. Our tram is also operated that way. The electric people were a little bit out of sizes to be used on the incline to bring up the car of shale on a 30 per cent. grade. We hope to have a 15-horsepower motor to put on one of our inclines and do the work to perfection. I believe it would draw two cars if we put them on. It was the only place anywhere that the electric motor fell down on what they recommended should be put in. We are running four dry pans with electric power. We put four dry pans and two elevators connected up



Wm. Burgess, Toronto, Ont., Canada.

on the 200-horsepower motor and we have about twice as much power as we need to have to run our dry pans. Our dry pans have cone-shaped bottoms and we find we are only using about half the power. My company is more than pleased with the change from steam to electricity.

Secretary Randall: Mr. Burgess, who has just spoken is President of the Canadian National Clay Products Association, which held a very successful convention last week. Were it not for the fact that the convention dates came so close together this year, we would have more of our Canadian members with us.

Mr. Cahoon: I would like to ask Mr. Burgess what rate he pays for his power.

Mr. Burgess: About \$18 per horsepower per year.

President Dunwody: How much is that per kilowatt?

Mr. Burgess: I can not tell you.

President Dunwody. We use electricity for our presses, we dig the coal, pump the water, we do everything we can, for we have a rate as low as one cent a kilowatt.

Mr. Cahoon: The gentleman who read the paper spoke of 2½ per cent. We have our plant driven by electricity, and we have individual motors for every machine. Our power costs us one cent.

George J. Craigen, Cliffwood, N. J.: I would like to ask

the gentleman who read the paper whether he figures, or whether his costs are based upon generation of your own electricity, or whether he purchases it from a power company.

Mr. Cordes: Purchasing it from a power company.

Mr. Craigen: My experience is very different. We happen to buy our power through the electric company on a basis of three cents per kilowatt; two cents for the next 5,000, and thereafter one cent. But we are charged with a load charge of two cents per kilowatt, whether we use it or not. That is the industrial rate. We are also indulging in the luxury of an excess coal charge, which means, say \$98.00, with a surcharge on top of that of 25 per cent. So, in the aggregate, the cost of my power is an infinitesimal part of my business.

President Dunwody: What is the next, Mr. Secretary? This has been a very interesting discussion.

Secretary Randall: Mr. President, we have had membership in the American Society for Testing Materials for a good many years. Our work has languished for a year or two, and we hope to get back to it now, and one of the avenues is through the American Society for Testing Materials. Mr. Shelley is chairman of the Committee C3 of that society, which has to do with the tests of brick, etc. He is with us today, and will tell you briefly of the work he has in mind in which this association is expected to cooperate.

#### STANDARDIZING BRICK.

Henry T. Shelley, Philadelphia, Pa.: I did not come this morning from Philadelphia with the idea of being asked to talk. I came to learn something about brick. Last summer I was made chairman of Committee C3 on brick and was requested at the same time to write specifications for sewer brick much requested by city engineers. Different cities have very many different requirements and there was need of a very general knowledge of what would be required in a sewer brick. I found in the other brick specifications a great deal of criticism as to what brick was really intended by the Brick Committee on Specifications. We had a request from some makers of brick to be included in the specifications. It was the impression of the Brick Committee that it was to deal entirely with clay products. This was a mistake. It was a Brick Committee, not confined to any one product, but to deal with any other materials brought to the American Society of Testing Materials. So far as I have learned the clayworkers have been very indefinite in regard to their own product. They have not been as wide awake or as keen as the manufacturers of other materials. There does not seem to be in their minds the necessity for a good specification. While I am not competent to write a specification for brick, as an engineer I can make it difficult for brick to be used, and we can probably put brick out of the market in my work. I could do that if I purposely was unfair to your material, and I could make it hard for you to give me your brick. I could use other material that the promoter claimed was superior to the article you wanted to sell me. It is the duty of the brick man to come to the Committee on Specifications and give that committee the benefit of his knowledge to aid me in writing a specification on sewer brick. I submitted a draft of specifications on sewer brick to the committee, of which we recently had a meeting. Unfortunately, the attendance was very small. We started out to deal with clay brick because I have no knowledge of any other brick that would warrant me in setting down and writing a specification, as it would be suitable for the purpose for which it is intended, and make it suitable for all purposes. You can not write a specification for a brick that will answer for building and make it apply for a sewer brick. You can take the run of the kiln and use it in a building, but you can not give me a sewer brick the run of the kiln. They are no good to me. The overburned I can not use, nor can I use the underburned. I can use the well burned brick. There is a question for the brick men to consider. Can the various sewer brick which I have on hand at the present time meet the requirement for the sewer brick? They are entirely different. I have built sewers in Philadelphia for the last fifteen years, both large and small, sewers averaging from forty feet in diameter to twenty-two feet in diameter, so you can see how many brick I use; but Philadelphia has been



a brick city. Unfortunately the brick men, for a time, did not supply us with satisfactory brick. Now the brick men are working with us and know what is needed in the construction, and we are getting good brick because the brick men are working with us. I had a specification which was not fair, I admit it now, but we took it and used it. When the brick was delivered on the ground I said they were not satisfactory. I had made one test. I made up my mind I would investigate the field and write a specification of my own for a brick that would answer my purpose. I investigated and found I could use a less hard brick than I had required and it gave me other brick.

Committee C-3 on brick is for the purpose of giving to the engineers over the country a brick they can use and have a common meeting ground on which the engineers and the brickmakers can meet if the brick manufacturers are going to stay in the business. I do not want to go into my committee with a requirement you can not meet. If I have anything in my specifications that is wrong I want you to come and tell me. The man who is going to use the brick will come before you with certain requirements and at the same time you want to be able to lay before him these specifications adopted by the American Society for Testing Materials; which is endorsed by the best engineers and the best chemists in the country. That is the work of Committee C-3 on Brick. (Applause).

#### General Discussion.

President Dunwody: What do you consider an over-burned brick?

Mr. Shelley: A brick convex on the end, and showing a tendency to spall off.

Mr. Wilson: Do you favor a shale brick, or a fire clay brick for sewers?

Mr. Shelley: I will favor any brick that will meet the specifications. You can make brick of common clay a glacial deposit, a residual clay, you can make it of shale, or you can make it of fire clay. I require strength, and I require density, and I require resistance to chemical action. In our sewer work we have to carry certain matters that decompose and carry gases. We determine certain materials which we put in there that no action that we know of can destroy. In one particular sewer in the city of Philadelphia, a twenty-foot sewer, I discovered in the arch in one place that the brick had failed, not only had broken in two places, but three or four. Showing the brick were too weak for the work imposed on it, yet the arches were designed heavy enough for a good brick. The brick manufacturer should never have delivered the brick. The contractor went to the yard and told them he wanted a sewer brick and they sent the worst brick they had on the yard. One failure in brick may take brick out of use. One bad delivery will put the whole business out of the specifications. I had a brick that came to me a pretty brick, it looked like a perfect brick. I accepted it and put it in the work. It made a beautiful piece of work, and when I went through the sewer for the final examination I found 108 brick destroyed by the dehydration of the lime in lumps in the brick. We had just tested for absorption and had not discovered the lime. That brick has been under suspicion ever since. If anybody but an engineer had handled that brick he would have said: "I will have no more brick; there is danger in brick." But it was only in that one batch of brick. We must have requirements that will determine that the lime is not in the brick to break out after it is in the sewer. I will get the strength I require from the structure when I build it, and that is the value of the specifications, and that is why, in every part of the brick industry, a specification should be written for clay brick. This is a part of my work as chairman of Committee C-3 and I will be very glad to hear from you.

Mr. Wilson: Do you require that the brick be vitrified?

Mr. Shelley: We require a brick for special use, where the flow is not more than eight feet per square inch. We require a vitrified brick and we determine it from absorption. If we keep below 5 per cent absorption in a shale brick, I know we have a brick that will withstand that velocity.

President Dunwody: How do you arrive at the absorption test?

Mr. Shelley: We take five brick and dry them off down to constant weight when they come in off the yard, and then put them in water at a temperature of 67 to 70 degrees. At the end of one hour, raise it to boiling, and boil for five hours; then put it in water of cooler temperature, allow it to cool down, take it out, wipe it off quickly. First, dry down to constant weight, bake it for five hours, put it in water, boil it after it is raised to boiling for five hours. Let it cool down, wipe off the surplus moisture and weigh. It is a severe test, but it is an accelerating test. As a proof of that test, of its accelerating qualities, I have taken brick and pieces of vitrified pipe and made other absorption test. I have weighed them, dried them back again to constant weight, and put them in water again for a long time test, as long as six months. For the first forty-eight hours it is very rapid, and then very slow, until in a dense material; at the end of fourteen days you have got the result you got by the boiling test. It would show very little gain in six months. So the boiling test is an accelerated test, and has the advantage, I think, in proving to you whether there is any matter in there that will disintegrate your brick in sewers.

President Dunwody: What is the percentage of the absorption test?

Mr. Shelley: We have been requiring 10 per cent, which we think is too low. I raised that figure to 15 per cent. This



R. D. Lindsay, Denver, Colo.

is in my work. In the committee we are proposing, in order to make it practical and adopt as nearly as possible the brick which the committee has specified as being the brick which the manufacturer would have and not make a special brick for sewers, and you may select from the brick you have those which are suitable for this purpose. You have three grades of brick: Vitrified brick, hard brick and medium brick.

When I started on my specifications I wrote to every city engineer in the United States and asked for his specifications and I found in one city the absorption required was 24 per cent, in others was 10 per cent, and as low as 8 per cent. Each community had its own specification. We have taken the average in every community and arrived at a specification which applies to the material in every community, whether it would particularly fit in that work or not, we can not say. The 10 per cent community may not take anything but 10 per cent and the 24 per cent community may want 24 per cent. We must find out through our experiments. I think the 10 per cent is too stringent to reach, and I have not presented a requirement that will allow a poor brick to come into a community where they are expected to have a water tight structure and where the velocity is very low. If they have a crushing strength and the absorption high, it will not make difference in that structure, because the engineer will know just what the brick can do and the user will be able



to sell in that market. So the engineer can select from these specifications what his structure requires. Today in building our sewers we have to consider the excluding of ground water because the law has compelled us to treat the sewage matter. If we are going to build a sewer that will not allow the ground water in then we are going to increase the cost of the structure enormously. So the engineer is facing the problem of excluding from his sewer all ground water.

The brick manufacturer must be advised of the requirements so he will be able to furnish the brick desired and cooperate with the engineer in formulating the specification and furnish him the product. Brick is a material I have used for years and years, it is very reliable and stands a great deal of abuse, but we can not rest on that reputation. We must come up and meet any requirement that may be made in the work, so you can not say the engineer is killing the brick business.

Secretary Randall: I think we are very fortunate to have Mr. Shelley with us this morning to talk over these matters with us. I see in the back part of the room a gentleman who was a very familiar figure a few years ago. I wonder if he would not like to tell the brickmakers what he does not know about the brick business. Mr. Richard Humphrey.

Richard L. Humphrey, Philadelphia. Mr. Chairman. It is very good of Mr. Randall to call on me, but I came in as a



J. F. Reynolds, North Haven, Conn.

quiet listener. It gave me, as I am stopping in the hotel, an opportunity of renewing acquaintances and recalling experiences we had during the somewhat strenuous condition which existed during the war. I feel my knowledge of brick is not so limited as your secretary seems to think, and I want to say a word in endorsement of what Mr. Shelley has put before you. The brick manufacturer has been his own worst enemy. There has been a sense of isolation and a lack of desire to be frank in discussing your problems. I think this association, during the war, may have been, to a large measure, beneficial to the industry. I am impressed particularly with the fact that the Federal Trade Commission assisted some of the plants in determining the costs so we might ascertain a fair and equitable price of brick. We were confronted with fairly well kept books, ranking from that down to the man who carried his books on the back of an envelope. The chief method of telling whether he made a profit or a loss was the difference between what he had in the bank a month before and the present time. Notwithstanding what can be said about the Federal Trade Commission, it had its faults, but it has done more for the future economical success of this country than any other one thing. It lead men to find out the cost of doing things. You have come to the place where you have seen the necessity of

knowing your costs. I think what Mr. Shelley has said in regard to Committee C-3 should cause this organization to act concertedly with it. You know engineers and architects will write specifications, and if these specifications are not in accordance with your judgment you are to blame. The way to do is to find out what engineers and architects require, and point out some of the defects or disadvantages of the requirements, and get specifications that are consistent. In that way you will get standards of your brick that will lead to business success. I remember very distinctly a meeting in Atlantic City when you formed that famous committee of paving brick men; face brick men and common brick men. We felt somewhat of a hostility at that time that we do not find here today. At that time we thought it desirable to have a standard brick, and while that thing has not come through, I see an increasing evidence that there is a desire to standardize the common brick, and I see no reason why it should not be. It shall always be my great pleasure, Mr. President, as opportunity may permit, to attend these meetings and renew old acquaintances, not for the purpose of making speeches, but for the purpose of cooperating and for the support which I received from this industry when I was trying to fill the very difficult position which had been assigned me. (Applause).

Mr. Cahoon: I want to talk on this sewer question a little. I think it very important that the brick people of this country get together and do just what Mr. Shelley has told us ought to be done. Get together and determine the brick that will come up to the requirements of the sewer brick. We ought to take up that work so we will get specifications in such a way that we can furnish brick that will be suitable for that work. Out in our part of the country we have had no such experience in that line, but I can see the necessity of something of that kind. While we were putting in a sewer in Salt Lake City some of the contractors came to me and wanted me to go with some of the other brick men and try to remove the city engineer. I said: "I don't know about this. I know the engineer and I think he is an able man. I will look into it." I stepped out on the street and here came the engineer. He shook hands and said, "Come down with me, I am going to make some tests." I cheerfully walked along with him down to his office. He said, "Here is a brick which the contractor suggests for the sewer. Here is a sample. You have probably heard something of the controversy here." I looked at the brick and I went back and looked at the brick being delivered, and then I went to the contractors and said, "You gentlemen better get down to business and furnish a sample you can keep up to, and after you have furnished a sample don't blame the engineer for turning down that brick, it is not up to sample at all." I think we should get together and get specifications that we can recommend to go into the sewer.

President Dunwody: I do not know when I have attended a convention that some of our friends have not told us that we have been asleep at the switch. Now let us take this advice and get together now, and in another year make it impossible for any of our friends to tell us we are asleep at the switch. Mr. Randall, you say we have a committee to attend to this.

Secretary Randall: Yes, Professor Bleininger, chairman of the Committee on Technical Investigation, is a member of Committee C-3.

Oatley Wilcox, Alliance, Ohio: While I may be misinformed, I believe we have specifications for common brick which have been worked out by Committee C-3. I would like to ask if this committee has provided specifications which have been adopted for common brick.

Secretary Randall: I do not think it has reached a



finality. It takes three years to get specifications through the American Society for Testing Materials. The specifications for common brick are under way, but have not reached a finality. Mr. Shelley can tell us whether I am correct.

Mr. Shelley: That is correct.

President Dunwody: What further have we to consider Mr. Randall?

Secretary Randall: We have reached the last number on our program. Unfortunately Mr. Jacobs, the author of the paper, is not here. He is very much interested in this subject and we had hoped he would be present. However, he has written briefly and I will read his short paper for him.

#### THE HOUSING PROBLEM.

BY HARRY L. JACOBS, SUFFOLK, VA.

Mr. President and Gentlemen:

The housing problem is one of our easiest problems to solve if we would go at it in the right way. If the government would pull off a Thrift Building Campaign with the same energy they did the Liberty Bond drives it could easily be put over.

Go out for five hundred thousand subscribers, who would sign up to build one house, each to cost \$6,000 or more. This would mean the building of 500,000 this year at a cost of three billion dollars or more. No one would be called to lay out over \$6,000.

I would urge the building of fire proof buildings as near as possible. Build with brick with fire proof roofs, brick steps, mantles, porch columns and brick garage and out buildings, eliminating all combustible material as far as possible. This would reduce the fire risk and give us permanent buildings that would require practically no repairs or painting and a very low insurance rate.

I believe if such a national campaign was put on we could easily get five hundred thousand people to sign up to build at least one house each. I, for one, would gladly jump at such an offer to sign up for such a building campaign. I believe there would be enough sign up in a thirty days' drive to guarantee the building of five hundred thousand houses this year.

This would stimulate every line of business and put over three billion dollars in circulation. This would give employment to thousands of people who are now out of work. It would make workers out of them instead of loafers and at the end of this job we would have five hundred thousand new houses and the money too. The money would only be used and not destroyed. After the houses were completed the money could go back to the old stocking, musty trunk or the bank and we would have the houses.

Confidence is the key note to the whole situation. It's a case of cold feet and a hot head. We must reverse ends to the radiator of confidence and get the chill out of our feet and the fever out of our head and the bright sun of prosperity will peep out from under the dark clouds of lost confidence, you would then see the greatest hum of prosperity and house building this country ever dreamed of.

We have the money and we have the "horses," all we need is some one to start the races. When the gong sounds and the word go is given, you will see all world records broken. Go to it. Who will ring the bell that means a half million new homes? (Applause.)

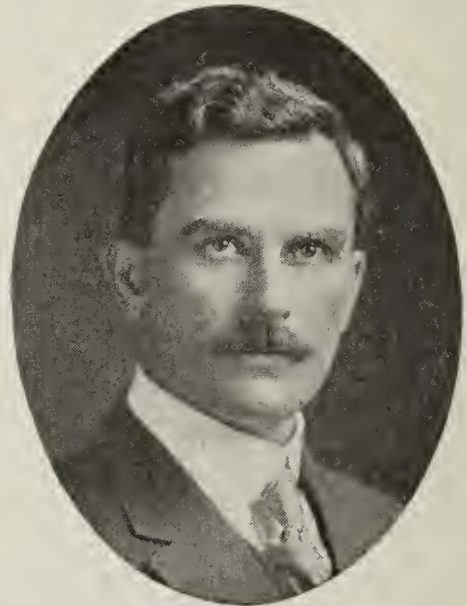
President Dunwody: The discussion of this paper is to be led by Mr. H. C. Kleymeyer, of Evansville, Ind.

#### Help the People to Build.

H. C. Kleymeyer, Evansville, Ind.: Mr. President and gentlemen, I do not know whether I can add very much to this paper. The housing or building problem seems to be an individual problem in each locality. I find there is a great deal of psychology in this. When you get to talking to a party about building a house they want to know how much they are going to make out of it. The next thing we are sure of, we have a good many people who do want to build, but do not know how to go about it. As you know, the building and loan associations and the banks will only loan 50 per cent of the value of the house. They haven't got the other 50 per cent and where is it coming from? You have got to form an organization that will help these fellows and show them where to get the 50 per cent. They may have

20 per cent or 30 per cent. I think the solution would be an organization or a company to endorse the second mortgage, or take over the second mortgage, and act as salesman and sell these to the people who want to build houses. I think there is enough money and material. I think there are enough brick to build all the houses wanted. I have been on several committees to formulate these plans, and when we got into the meetings, there were many plans as there were members of the committee, and we could never get together. I was talking to the president of a bank and to a contractor, and the contractor said: "I have never foreclosed on a home, and I have never lost a cent on such a transaction." The home is a man's life, and he will fight for it, and work for it. The man who will not fight for his home is a very poor citizen to start with. I think it behooves every brickmaker to get behind any proposition pulled off or proposed in his city, as an educational plan or a financial plan to show the people how to build and then help them. (Applause).

Secretary Randall: Mr. President this completes our program of perhaps the best convention we have ever held in many ways. Of course we always feel that way when we



Henry C. Kleymeyer, Evansville, Ind.

come to the end of our proceedings. This year the success of the convention is largely due to the untiring efforts of the local committee. The ladies were most royally entertained, and I am sure we will all leave New York with a feeling of love and gratitude and appreciation for the New York brick men. I move we adjourn subject to the call of the Executive Committee.

President Dunwody: I think we can all echo what our Secretary has said. The convention stands adjourned.

#### THE BANQUET PROCEEDINGS.

It was intended to give the proceedings of the Annual Banquet, a most delightful occasion, as well as the convention sessions in full in this issue. But to enable some of the speakers to revise their post-prandial efforts it is necessary to defer the publication of same until the next issue of The Clay-Worker.





## CONVENTION ECHOES.

### SECRETARY LEADS THE STRENUOUS LIFE CONVENTION WEEK.

My Dear Mr. Randall:

I trust you arrived home safely from the convention and are rested up from your strenuous activities during the meeting here. It certainly was a fine convention, and you are pretty nearly as strenuous as another "Teddy" who was noted for leading the strenuous life.

With warm personal regards, I am,

Yours very truly,

New York, N. Y.

R. L. WINSLOW.

### THE BEST N. B. M. A. CONVENTION EVER.

My Dear Friend Randall:

I arrived home from the convention safe and sound, and wish to say at this time that it was one of the best conventions of our Association which I have ever attended. I only voice the sentiment of others, for I heard the same remark made many times.

Hoping you and your staff returned home safely, I am,

Yours very truly,

Boston, Mass.

GEORGE A. PARRY.

### HER FIRST BUT NOT WILLINGLY HER LAST

Dear Mr. Randall:

I want to tell you I enjoyed the National Convention very much, indeed, both the business and social part of it. I was greatly impressed with the cordiality and friendliness of those I met, and with the whole spirit of the convention, which seemed to me to be a great desire on the part of all to get together for the common good of all. I enjoyed greatly the many excellent addresses and discussions and have been kept busy since my return telling my firm all about them. I am glad I attended the convention and hope I shall be permitted to attend the next one.

Sincerely,

IDA E. WEAVER,  
The Fields Brick Co.

Chester, Pa.

### THE BANQUET A DELIGHTFUL AND HIGH CLASS FUNCTION.

My Dear Mr. Randall:

I was glad your convention here was such a success, and to know that New York appealed to you as a "good convention town."

Mr. Wentworth is always an entertaining and forceful speaker and I am glad his being with you was so mutually agreeable. I, too, enjoyed your meeting very much and certainly appreciated the courtesies extended to me both on the floor of the convention and at the banquet. The latter appealed to me particularly as being a very delightful and high class function. The speakers were all of them extremely interesting and their remarks quite out of the line of what one might have expected before an organization devoted to such a highly specialized subject. With best wishes, I am,

Yours very cordially,

IRA H. WOOLSON, Consulting Engineer.

### NEW YORK CITY A FINE CONVENTION TOWN.

Editor of the Clay-Worker:

It was my pleasure to attend the convention of the N. B. M. A., recently held at the Hotel Pennsylvania, New York, and I feel that I cannot let the occasion pass without voicing the sentiment of the ladies present—that we were most royally entertained with sight-seeing trips, teas and theatre parties. Everything was well planned and successfully carried out and I am sure everyone appreciated the untiring

efforts of the committee. I heard several ladies say, "This is my first convention and I shall never miss another." Everyone seemed to enjoy the smokerette immensely and the banquet was everything to be desired. The musical part of the occasion was greatly improved by the assistance of genial Mr. George A. Parry of Boston. Last, but no means least, I would like to add that the staff of the Clay-Worker was always solicitous that everyone should have a good time and did everything possible to make the occasion a success, and I am sure everyone present will say that it certainly was a success.

I quite agree with Miss Wallace who would like to have the convention held in New York every year.

Hoping that the convention will prove an incentive to many to "Build With Brick" the coming year, and incidentally that the New Haven Brick Machine will be used for making the brick, I am,

Cordially yours,

MARY L. (MRS. H. G.) WILEY.

New Haven, Conn., February 22, 1921.

### CANADIAN MEMBER HAS MADE MANY FRIENDS THROUGH THE N. B. M. A.

Dear Mr. Randall:

I arrived home from the convention all right and got right down to work again. Want to tell you that Mrs. Burgess and I enjoyed the convention very much. While the Pennsylvania Hotel was large, everyone seemed to do their best to make everybody else welcome. I have come to look on the N. B. M. A. convention as the time to take my holiday each year, and there is hardly a state in the Union in which I cannot call some fellow clayworker by name, and have a friendly chat about matters of common interest to all clayworkers.

We have had remarkably fine weather in Toronto this winter, so our plant has been operating to about two-thirds capacity all winter.

With best wishes to you all, including Miss Wallace, in which Mrs. Burgess joins, I am,

Yours truly,

Toronto, Ont., Can.

WILLIAM BURGESS.

### ADVOCATES TARIFF ON FIRE BRICK FROM CANADA.

My Dear Randall:

I am enclosing check for renewal of our membership in N. B. M. A.

Would like fine to have attended the convention, but the distance is too great. Hope the next convention will be at some of the Pacific coast cities.

Had the writer been in attendance at this convention he would have solicited the assistance of all fire brick manufacturers in attendance to help have an import tariff of not less than 25 per cent. imposed on all fire brick coming into the United States from Great Britain and Canada.

The present tariff on imported fire brick is 10 per cent. The tariff on United States fire brick going into Canada is 22 per cent., also a .02 per cent. sales tax.

I would also advocate the keeping up of prices on all classes of manufactured clay goods. This, that plants could be operated with a reasonable margin of profit and also that operators could pay to their employes a wage whereby the employes could live in decency and comfort. I do not think the wage of brickyard workers should go below fifty cents per hour.

We are not paying less than fifty cents per hour and will not reduce under this rate unless forced to do so by what I would term rash competition of our competitors.

Wishing you success and hoping harmony will prevail, we are,

Yours very truly,

Troy, Idaho.

IDAHO FIRE BRICK CO.,

J. B. Watson, Mgr.



# AMERICAN CERAMIC SOCIETY MEETING

Twenty-Third Annual Convention Held at Columbus, Ohio, February 21-24, Broke All Records for Attendance. Splendid Program, Enjoyable Entertainment and Much Constructive Work Were High Lights of Meeting.

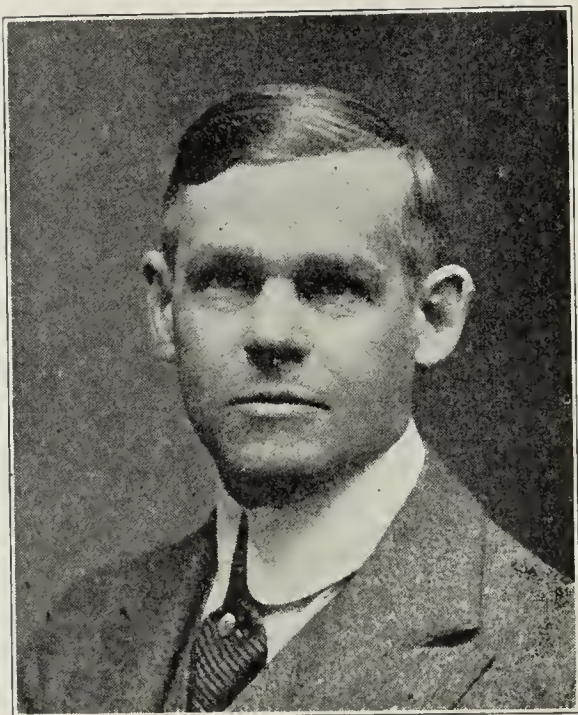
THE TWENTY-THIRD ANNUAL CONVENTION of the American Ceramic Society, held at the Deshler Hotel, Columbus, Ohio, February 21-24, was without question the most successful, the most largely attended, and of the highest interest of all the many meetings held in the history of this technical organization.

An excellent program, not too long to be burdensome, but of sufficient make-up to cover the field of the many divisions in an adequate manner, was carried out in a business-like fashion.

The total registration showed 371 ceramists present, and

consist of five members. Third, the publication of all papers and discussions before general sessions are to be the property of the A. C. S., and no papers read before any of the divisions shall be published until permission is given by the Board of Trustees.

High tribute was paid Ernest Mayer, and a memorial committee was appointed to arrange a suitable permanent me-



President R. H. Minton.

35 ladies. This beats the former record of the Society established in Pittsburgh when 250 were present. The membership of the Society now numbers 1,346, of which 294 are active resident members, 14 active foreign, 821 associate resident, 109 associate foreign, 105 corporation, 3 honorary and 2 life members. Eighty-six associate resident members were raised to active membership, while 9 foreign associate members were raised to foreign active members.

The financial condition of the association is substantial, there being about \$1,700 in the treasury, with investments in liberty bonds, thrift stamps, etc., to the amount of about \$15,000.

A constitution and by-laws to replace the old rules of the Society were adopted. The most important changes being, first, that the nominating committee shall consist of the secretary as chairman without vote, the two past presidents, and an active member from each of the divisions of the Society. Any other nominating committee than that appointed must consist of ten members, five of which are to be active members. Second, the chairman of each committee shall be appointed by the Board of Trustees. The committee on rules, to



The lower part of the badge was a neat bit of ceramic work, Wedgewood porcelain medallion in pale blue, to imitate the color of ceramic society stationery. The picture of Christopher Columbus in white, as well as date of organization in Columbus, 1899, etc., was in bas-relief. This was the work of Krehbiel and Henderson, done at Prof. Orton's Cone Factory.

memorial to do just honor to this charter member of the Society who died recently.

Ed. Orton, Jr., was given an ovation and credit for his splendid services, and a suitable resolution printed on parchment will be presented to him during the course of the year.

Election of officers resulted in the selection of F. K. Pence, Zanesville, Ohio, President; F. B. Ortman, Chicago, Ill., Vice-President; R. K. Hursh, Urbana, Ill., Treasurer, and R. M. Howe, Pittsburgh, Pa., new Trustee, succeeding Homer Staley. Prof. C. F. Binns, Alfred, N. Y., was reappointed Secretary by the Board of Trustees, as was also Miss Norah Binns as Assistant Secretary. Dr. E. W. Washburn, Urbana, Ill., is Editor of the Journal.

One hundred fourteen papers were on the program, the large majority of which were read and discussed.

Two divisions were added to the Society, namely, the Decorative Processes and the Heavy Clay Products Division, while others were strengthened one way or another.

The Section Q. and smoker on Monday night was very enjoyable, while the banquet Tuesday night was a high-light in



the history of the organization, led by Ed. Orton, Jr., as toast-master.

Thursday the ceramists had choice of trips through the plants of Federal Glass Co., manufacturers of table ware, The Brunt Porcelain Co., manufacturers of electrical porcelain, The American Zinc Oxide Co., manufacturers of zinc oxide, Ebenger Sanitary Mfg. Co., manufacturers of heavy cast-iron sanitary ware, The Franklin Brick & Tile Co., manufacturers of drain tile and brick, and Edward Orton Cone Factory, manufacturers of standard pyrometric cones used for observing temperatures on a wide variety of clay product plants. Trips were also made to the Bureau of Mines and Ceramic Department in School of Mines Bldg., Ohio State University.

#### General Session.

Monday morning, at 10 a. m., President R. H. Minton called the session to order and welcomed the delegates to Columbus.

#### A MEMORIAL TO ERNEST MAYER.

##### RESOLUTION.

WHEREAS, The Ceramic Industries of this country and the whole world have suffered an irreparable loss in the death of Ernest Mayer, who gave not only of himself without stint or measure for the advancement of knowledge in the field of ceramic science and the general uplifting of the potters' art, but also was the confidant, adviser and friend of all who came seeking help and guidance, and

WHEREAS, His broad and enlightened habit of open discussion and free interchange of knowledge was of immeasurable value to the American Ceramic Society in the early formative years of its existence, setting an example of the true scientific spirit to all, and breaking down the barriers of traditional reserve which have stood between men working side by side, and

WHEREAS, The American Ceramic Society desires to find some tangible and permanent method of preserving to its members and to the ceramic workers of the world the lesson which the life of this great and good man has taught us,

THEREFORE BE IT RESOLVED, That the President shall appoint a select committee of five, of whom one or more shall be members of, or represent, the United States Potters' Association, the duty of which committee shall be to consider and report at the next annual meeting a plan for some form of memorial, whose object shall be to perpetuate the spirit and work of Ernest Mayer, Potter.

the industry allied to the strictly technical, including co-operation of Federal Bureaus on important investigations and co-operation with other technical organizations. Fifth, the development of a series of sessions at the meeting of the Society and various divisions for presentation of data upon practical factory problems. And, sixth, the formation of a white ware division and extension of activities and membership of Society to include the heavy clay products manufacturers and the decorative arts allied with ceramics.

He stated that, although the industry had gone through one of the most precipitate business recessions in its history, in spite of adverse conditions, the Society had progressed. The membership had grown 10 per cent., the year had been completed with a substantial financial balance, the Journal had been improved, through the industrial divisions and was emphasizing the value of co-operation among related industries and the Society had developed a greater



President-Elect F. K. Pence.

spirit of progress and was proving of greater value to the ceramic industries.

Since it was his belief that the country now faces a period in which industrial competition will be much more severe than at any other time during the past twenty years, he thought it well to consider problems, the solving of which would aid in elevating the industry to a higher plane of efficiency.

He took up in turn suggestions relative to technical work, problems such as investigations of the real nature of the constitution of the silicon compounds, problems involving certain fundamental laws as drying, firing of clay products, heat transmission, and heat losses, problems of combustion including the whole process of kiln construction, kinds and forms of fuel and firing methods and controls, and problems peculiar to each division of the industry, in glass particularly that of the actual chemical constitution of glasses, whether dealing with compounds or mixtures, and in refractories, the use of under grade kaolins and sillimanite, alumina, zirconia, magnesite and carborundum and

Secretary Binns then read the minutes of the previous meeting, which were approved as read.

President Minton delivered an unusually fine address, in which pertinent recommendations were suggested.

He first briefly reviewed the aims and accomplishments of the Society during the past year, stating that early in the year his administration had formulated a number of objects which might represent some progress in the year's work, and the accomplishments had been, namely, first, the expansion of the Journal to cover a broader field, and the enlargement of the abstract department to bring to the members the benefit of every published treatise in the ceramic field. Second, the drafting of a complete constitution and by-laws in keeping with the growth and operation of the Society. Third, placing the Journal's advertisements on a strictly business basis by handling them through an experienced solicitor to make the Journal self supporting. Fourth, the broadening of the activities of the Society to include every phase of



the gathering of data giving information as to the porosity and volume changes in blocks and softening points of pot clay mixes.

He also recommended investigation into disintegration of clay products from weathering, the dunting of sanitary ware and terra cotta bodies, failures of refractories under load and plasticity of clays.

He stated that there was need of improvement in porcelain for high tension work and that the white ware division should have a committee to investigate new deposits of raw materials and collect data that will lead to specification of clays, flints, spars, etc.

Mechanical problems were cited, such as transportation, which should be changed to automatic procedure with labor saving devices, and the multiplicity of designs, shapes, patterns and sizes in various clay products, which might well be restricted by proper co-operation.

He urged the investigation in conjunction with Federal Bureaus of heavy clay products, to give comparative data on tunnel kiln, and eliminate fuel waste in firing kilns already constructed, and stated that more attention should be given to designing plants and machinery layout. Ceramic training, economic co-operation and the function of the Society were also subjects dwelt upon.

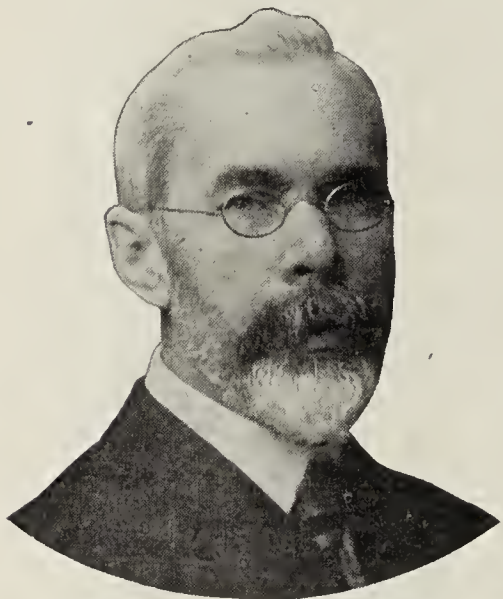
#### Afternoon General Session.

At the opening of the afternoon session, A. V. Bleininger, chairman of the Committee on Ceramic Research for National Research Council, made a report in which he stated that the executive committees of various organizations had approved the raising of their shares to a total of at least \$10,000, for a fund for research work, as outlined in a meeting in Chicago, February 15, and that he hoped the American Ceramic Society, in support of its Heavy Clay Products Division, would take similar action. It was moved and seconded that the committee make a report with recommendations to Board of Trustees.

The regular general program of papers was then taken up by entire society.

"The Business Outlook for 1921," by Warren F. Hickernell, New York City, was not overly optimistic in tone. He predicted that business would gradually improve, but not reach a really normal basis until 1922.

"Development of Ceramic Work at the University of North Dakota," by Margaret Cable, University of North Dakota, showed what was being done in development of different types of clays in Dakota. The great abundance of this material for ceramic work was mentioned. She illustrated her talk with interesting lantern slides, showing the various



Secretary C. F. Binns.



Toastmaster Edward Orton.



A. S. Watt, Chairman Rules Committee.

President Minton received a rising vote of thanks for this admirable paper and on motion a committee was appointed to study carefully the recommendations and to make a report at a subsequent time so that effective work would be done in this connection.

The report of the Board of Trustees was read by Professor Binns, which covered the activities of the Society during the past year and referred to the fact that the board was not of the opinion that a full time secretary would be beneficial to the Society.

Treasurer Hursh made the financial report which showed that over \$25,000 had been received during the past year with heavy expenses for the Journal and other necessary work, but a substantial balance, approximately \$1,700, remained. Reports of various committees, such as Co-operation, Standing, Sections, Publications, Membership, Program and Rules, by their respective chairman were read, followed by reports from local sections, industrial divisions, and student branches.

Ross C. Purdy at this point paid a glowing tribute to the memory of Ernest Mayer and urged a memorial. Effective steps were taken in this connection at a subsequent session.

departments in the school and also exhibited some splendid examples of work done there.

"An Analysis of Activities Covered by American Ceramic Society," by F. H. Rhead, Zanesville, Ohio, showed that there are 645 occupations covered in the field of ceramics, 196 being technical occupations.

"Clay Products in Chemical Plants," by Chester H. Jones, Chicago, Ill., detailed the clay products used in industrial plants making wood products, coal products, petroleum products, metals, heavy chemicals, animal and vegetable products fertilizer, explosives, water supply and sewage disposal, paints and varnishes, ceramic industries, laboratories, etc. The paper was very illuminating.

Other papers on the general program were, "Sedimentation as a Means of Separating Extremely Fine Clay Particles," by H. G. Schurecht, Columbus, Ohio. "The Manufactures of Transmission Line Porcelain and Its Problems," by E. H. Fritz, Derry, Pa. "Dolomite Cements Invading the Sorrel Reaction," by R. T. Stull and H. G. Schurecht, Columbus, Ohio. "Plastic Magnesia Cements," by P. H. Bates and R. N. Young, Washington, D. C. "New Developments in Oxychloride Stucco and Flooring," by J. B. Shaw and G. A. Bole, Alfred, N. Y., and "The Separation of Lime from Dolo-



mite," by H. G. Schurecht, Columbus, Ohio. Grains of Sand was a moving picture film showing the many steps in the cleaning and sizing of sand on the plant at Oregon, Ill.

Monday evening an informal smoker was given in the ball room of the hotel. The local entertainment committee through Mr. and Mrs. Arthur Watts, entertained the Ceramist with a local talent show, consisting of clever recitations, instrumental and vocal music, and tricks of magic, all by university students, and a delightful dance by a little nine-year-old girl.

By-play on the part of some of the boisterous members of the society helped to enliven the occasion. Col. Edward Orton, Jr., was given an ovation when he appeared at one of the tables to partake of the feast. Purdy acted as official caller in the dancing, forming circles, squares and rectangles to get his choice of dancers.

Tuesday morning early, the division meetings were in full sway. The Terra Cotta division meeting in Room 1107; Whiteware, Room 1008; Glass, Parlor A; Refractories, Par-

Magnesite, Chrome and Silica Brick, by E. E. Ayers, Danville, Ill., which was of extreme value to the practical man, for it described each step in the design making, remodeling and upkeep of molds, as well as the materials used; Testing Coke Oven Refractories, by F. A. Harvey, Mt. Union, Pa., gave the methods used in testing coke oven refractories, a description of the apparatus and the results, (specifications were given for silica brick, cement, etc.). Zirconia Cements, by Mark Shepard, Pittsburgh, Pa., gave the composition of zirconia cement and the results of practical tests. He showed how the life of a malleable furnace bung was increased 25 per cent. by applying a thick zirconia cement wash and, The Addition of Ganister to Flint Clay Fire Brick, by R. M. Howe, which gave results of tests made on flint clay, plastic clay and ganister mixes. The addition of ganister apparently increased the resistance to spalling at lower temperatures, but did not at the highest temperature due to a decrease in the softening point of the brick.

#### Meeting of Heavy Clay Products Division.

Early Tuesday morning there assembled in Room 1011, Hotel Deshler, at the call of F. H. Riddle, temporary chair-



A. V. Bleininger, Chairman White Ware Division.

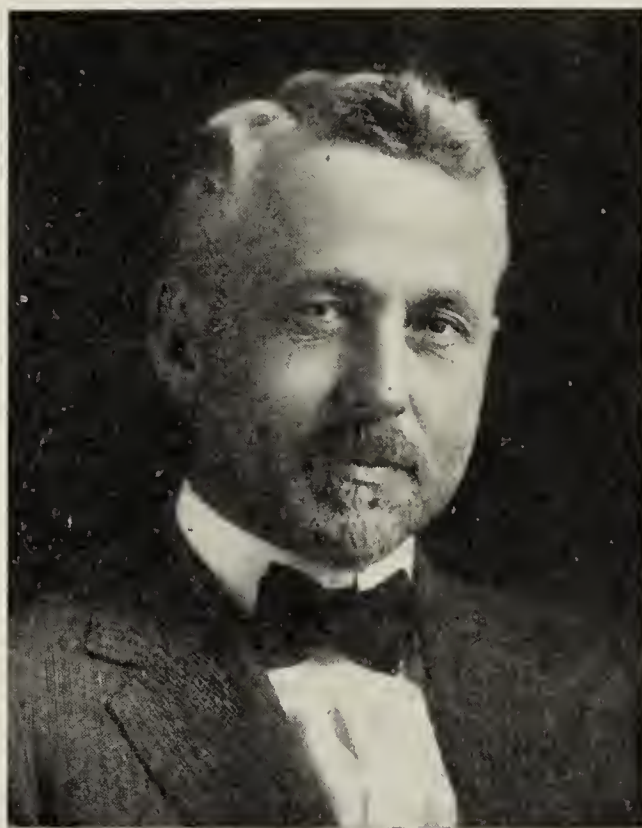
lor B; Enamels, Parlor C; Decorative Processes, Room 1111, and Heavy Clay Products, Room 1011. These divisions stayed in session most of the day.

#### Meeting of White Ware Division.

The White Ware Division with C. E. Jackson, chairman, and C. Treischel, secretary, enjoyed the reading and discussion of thirteen papers, the most interesting of which were: Feldspar, by C. Treischel, Schnectady, N. Y., and Advantages of Tunnel Kiln Firing for Sanitary Ware, by A. W. Buckingham, St. Louis, Mo. The division discussed the plan proposed for permanent organization, with the result that the chairman was instructed to appoint four members to represent four active branches of the White Ware Division, namely, Pottery, Tile, Electrical Porcelain and Sanitary Ware. Mr. A. V. Bleininger was elected chairman of this division. C. Treischel, secretary.

#### Meeting of the Refractory Division.

The division heard the reading and discussion of nine papers, the most interesting being as follows: Molds for



R. C. Purdy, Chairman Heavy Clay Products Division.

man, forty enthusiastic members of the American Ceramic Society who desired to form a permanent organization to be known as the Heavy Clay Products Division of the A. C. S. Mr. W. P. Blair moved that those present organize a division to be called the Heavy Clay Products Division, the definition of this term and scope of the work to be outlined by a committee of five to be appointed by the chairman, the committee to make their report at the afternoon session. This was duly seconded and passed and Mr. Riddle appointed the following committee: Marion Blair, chairman; F. Brand, R. K. Hursh, A. V. Bleininger and E. P. Post. The committee was instructed to make such changes in the draft of Rules and By-Laws for organization submitted by Secretary Binns of the main Society as was deemed necessary, and also to nominate a permanent chairman and secretary.

Marion Blair of Moundsville, W. Va., read a very timely paper in which he lamented the fact that so much money had been expended and wasted in vain attempts to solve problems of which we are still ignorant and so little had been

(Continued on page 286.)





Entered at the Indianapolis postoffice as second-class matter.

A Practical Illustrated Monthly Magazine, devoted to Brickmaking and allied Clayworking Arts and Industries.

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THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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Correspondence on all subjects of interest to Clayworkers solicited. All communications should be addressed to  
211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 75 MARCH 12, 1921 No. 3

CURRENT COMMENT.

It looks like a home building year.

Start up the mills and fire the kilns.

The brick stock on hand is not heavy and the buying should be brisk.

It's a sort of "wet" spring for drain tile, but there is not much cheer in it.

Maybe by fall the farmers will get over their grouch and get ready to do some more tile draining.

Whether the world looks good and prospects appear bright depends considerably upon how you feel yourself.

Reports indicate that hollow building tile prices are down to solid ground, so close to actual cost as to make their stability impressive.

Another good thing, besides urging the regular workers to go to it and work more earnestly and effectively, is for the bosses to buckle down and work some, too.

We can name some other points of difference but after all the thing which more clearly distinguishes the human from the lower animal is that thing we call ambition.

People who read that steel and metal prices are down to a low basis again and then go to buying machinery and feel inclined to complain that machinery prices are still high

should remember that fuel and labor cost enter into machinery making just as in brickmaking and constitute the real big factor.

Huck Judson says it's a queer world and few get out of it alive. Well, if we did get out alive, where would we go, and what would we do?

The total expenditures on the Lincoln Highway in 1920 was \$8,324,624. This makes the total expenditures in seven years on this highway amount to a total of \$31,187,084.

Paraphrasing that old slogan, "give till it hurts," the little publication Material Facts carries the headline, "Build Now, Till It Feels Good." Somehow that sounds better than give or build till it hurts.

The lumber trade folks are still busily showing how much more it costs to build brick walls than it does a wooden wall, but they center all their figuring and attention on first cost, not on lasting and fireproofing qualities.

On the dates of March 26th to April 2nd, inclusive, there is to be held an interesting Own Your Own Home Exposition at the Coliseum in Chicago. The Chicago office of the promoting company is 175 West Jackson Blvd.

Good foremen and superintendents are among the essential needs of the clay working industry today. An idea it is desired to offer in this connection is that it may be better to develop them than to go out looking for them.

There is not much question about the attitude of clayworkers toward the advisability of the open shop for we are practically unanimous in favor of it. There is need, however, for us to keep expressing ourselves on this point because there is a persistent fight being waged on the open shop by union labor leaders.

There are reports of efforts to import brick and other building material into this country from Europe to furnish return loads for vessels. There may be a little of it but somehow we do not feel that there will be any great amount of building brick, or other similar material imported aside from lumber that comes across the border from Canada.

BE PREPARED.

Current reports indicate that the brickmakers of the country are not as well prepared as they might be to serve the spring and summer trade. There are comparatively light stocks on hand, taking the country over, and there is not the active and extensive preparation which might be going on in anticipation of the busy times to come. It makes it look a little like the clayworkers are doing what they blame others for doing, and that is hesitating too much about buying and pushing their business. It is true that a man must take some chances in making up stock ahead of the demand, but in the long run it is better to take a chance and be prepared than it is to be caught napping when the demand does come. The slogan of the day among brickmakers may well be, prepare for an increasing volume of demand.

DELIVERY COST.

Broadly speaking local delivery costs are being reduced while delivery costs by long distance, by rail, are comparatively high because of increased freight rates. Motor trucks and good roads are doing more to save the day in the matter of



delivery of brick and other building material than any other one thing. This should lend encouragement to the extending of local deliveries and the cultivation of trade in the near-by territories. The more one can keep deliveries within control of his own efforts the safer he will be in meeting his trade needs in the making of deliveries, and in the final analysis less cost will be involved than in rail shipping.

#### NET PROFITS.

Most of us have heard the word cost until we are tired of it, and we have listened to system ideas until we are weary of them, but whether a man is working for himself and striving to lay up a little for a rainy day, or conducting a business, it is not the gross returns, but the net profits or savings, which tell the story of the real progress he is making. And somehow by some means he must keep track of costs and expenditures systematically if he is to understand as he goes along whether or not he is coming out ahead and making a net profit.

#### CENTER ON THE HOME BUILDER.

There have been two interesting facts developed lately which should lead the clayworking industry to center its attention on the home builders of the country. One of these is the statement coming from a review of census figures that sixty per cent. of the people of the United States do not own homes. The other is indications from reports of the building industry and prospects throughout the country that it is home building which is to dominate the building industry this year. It is figured that the slowing down in industry will hold in check new factory building and extensions and that the tight money market and the cost will hold in check investment building, consequently building interests will center largely on the matter of home building. Now, then, since we urge honestly and earnestly that burned clay makes the best building material on earth, it is up to the clayworking industry to center its attention upon the prospective home builder during the year and convince him of the advantages of building with clay products.

#### WAGE CUTTING.

While the average owner of a brickyard or clayworking plant feels that skilled labor in the building industries has been exacting too much in the way of pay and that wages of brick layers, carpenters, plasterers and others should be trimmed down considerably so as to lower the cost of building, he turns with an entirely different feeling to the matter of wage cutting in his own establishment. This is partly because wages in the clayworking plant have never been inflated comparable with those in the building industries, and it is partly because a man can look on at that which does not so directly concern him in the cold light of analysis and render judgment accordingly, whereas when it comes to dealing with his own employes there enters the human element of fellowship and sympathy. Wage cutting in your own business, among your own employes is a difficult and distasteful proposition, and while in many instances it will have to be done, and in some instances it will be done willingly because of previous unfair exactions on the part of workers, in the main we will come through with a higher scale of wages in the clayworking industry than existed in prewar days. What is meant by this is that wages will not only be on a higher level generally, but they will be higher compared to wages in the other industries, and the result should be more satisfaction and more desirable men avail-

able for work on the brickyard. The problem of wage adjustment in the clayworking industry is an immediate problem of prime importance that should have the earnest attention of every man in the business, and should call for consultation with others so that the final results may be fair and satisfactory.

#### CO-OPERATIVE IDEAS.

This has been a great era for promoting co-operative ideas, both in buying and selling and in producing. Incidentally human sharks have taken advantage of the situation to promote wild cat schemes and fleece people of their money. The fever for co-operative effort is gradually passing and meantime there is an interesting question of why efforts of this kind look so fine on paper and turn out so poorly in practice.

There is some explanation of this in a story furnished by the Bureau of Mines on a successful co-operative coal mining enterprise at Dugger, Ind. A study of the difficulties encountered and the details involved in carrying out this enterprise in which there are some thirty or forty stockholders who share the tasks of the work among themselves, points plainly to why many of these enterprises fail. The answer is that a proper division of work, responsibility and returns involves many complex and intricate details in which there is room for difference in opinion and argument and which are so complex as to be hard to understand by the average workman.

The complexities of administration and of accounting are much more intricate in a proposition of this kind than in any corporate owned institution and there goes with it a matter of uncertainty as to just what the returns for each may be in the near future. Therefore this one case furnishes an interesting example which though successful in itself easily proves that it is only the exceptional undertaking of this kind which will be carried through to a success.

One feels after studying it that a spirit of co-operation in the managing of a corporate enterprise is much better than an effort to operate an out and out co-operative enterprise.

#### FINANCING THE HOME BUILDER.

It is easily demonstrated that the main factor in stimulating home building and home owning is in the financing of the prospective home builder. In this work, too, it seems easy to prove that the building and loan association is the greatest agency we have.

The lumber people have recognized this for some time and the retail lumber dealers have made it part of their business to promote building and loan associations. Moreover, one of the biggest associations of retailers has gone at this matter elaborately and employed a special man at high salary for service in organizing and building up these associations.

Recently, too, the most widely circulated publication of this country, The Saturday Evening Post, gave a whole-hearted endorsement of the building and loan association editorially, stating that:

"The reasons for the extraordinary success of these associations in the states named (Ohio and Pennsylvania) are not far to seek. In the first place, they are strictly co-operative societies. They are self-contained institutions. Members are not only in the position of saving-bank depositors, but they assume the functions of bank directors as well, and personally lend the accumulations of their own savings. Membership often consists largely of friends and neighbors, who have been acquainted from childhood. Their operations are in



familiar neighborhoods, where present values and future trends are matters of common knowledge. Lenders and borrowers have a background of acquaintanceship. Still another advantage exists in regions where these associations have long been operating. Experience has perfected their organization, their rules, policies and methods. Procedure has become standardized until it is as nearly foolproof as human skill can make it."

LAKEWOOD COMPANY APPOINT NEW SALES MANAGERS.

Effective at once, Mr. Robert C. Weller has been appointed General Sales Manager of The Lakewood Engineering Company with headquarters at Cleveland. Mr. Weller is in full charge of sales work.

Effective March 1st, Mr. Carlton R. Dodge is appointed Western Sales Manager of The Lakewood Engineering Company, with headquarters at 1215 Lumber Exchange Bldg., Chicago.

ILLINOIS CLAYWORKERS MEET IN CHICAGO.

THE ANNUAL CONVENTION of the Illinois Clay Manufacturers' Association was held at the LaSalle Hotel Tuesday and Wednesday, March 8 and 9. The attendance was small, but the proceedings were unusually interesting. Thanks to the directness of President Harvey C. Adams, of Danville, who has an affable manner of pushing or directing group effort, there was no lagging of interest.

The first address was an instructive discourse on "The Origin and Classifications of Ceramic Fuels." The formation of coal deposits and the varying quality of same was explained and the comparative value of fuel oil and powdered coal was given.

Ralph P. Stoddard, Secretary of the Common Brick Manufacturers, Association spoke in an entertaining manner on the work of that organization which has to do with the education of the public in brick construction. Brickmakers, he stated, have not in the past given sufficient attention to that important phase of the business. They have not been as aggressive as have the promoters of competing materials, consequently, the industry has lagged behind, while cement and lumber have encroached on the brick business until it has will nigh reached the vanishing point. He further said that it was not the purpose of the Common Brick Association to influence the price of brick, excepting so far as by increasing the demand, the market would naturally be improved. The Association is devoting its efforts in a laudable way to broaden the market for brick, and with it terra cotta and other structural materials of burned clay. There surely is need of such effort; look about you and you will fail to find any millionaire brickmakers. Why have the leaders in the cement and lumber interersts waxed rich, while the brick man making a much more valuable building material has been contented to plod along barely making ends meet? There are many reasons why brick men must get together and work together if the industry is to lead in the structural world as it should, on its merits. That is the purpose of the C. B. M. A., and every brickmaker in the land, large or small should gladly support the movement.

The tunnel kiln was the subject of an interesting address by A. W. Buckingham, of the Russell Engineering Co., St. Louis. He described a new type of tunnel kiln, which his firm is offering the trade, and which has some peculiar advantages, all of which will be set forth more in detail in a subsequent issue of The Clay-Worker.

In the discussion which followed, Prof. R. K. Hursh, de-

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partment of Ceramics, University of Illinois, Urbana, confirmed Mr. Buckingham's statements as to the economy of the Tunnel Kiln when properly constructed and operated, and stated it has already proved the most economical method of burning light wares and refractories, but it was not yet fully demonstrated that it was adaptable to the burning of heavy ware, such as building brick .

"The Local Dealer and His Position in the Distribution of Clay Products" proved a fruitful theme for discussion. Mr. V. H. Cartwright, a dealer in face brick at Lacon, Ill., explained some of the difficulties in promoting the building of brick homes in small towns, where the volume of business is small, and urged as a remedy closer working relations between the dealer and the brick manufacturer.

The final number on the program was to have been an illustrated lecture on "The Application of Portable Loading and Conveying Equipment to Clay Products Manufacture" (Continued on page 292.)

Webster's Continuous Down Draft and Continuous Muffle Kilns

Patented in United States, Canada and Great Britain. Marvels of ingenuity and simplicity. Pronounced by experts to be the most perfect and cheapest kilns to construct and the most economical to operate, ever invented or put upon the world's markets.

Equally as economical for burning any class of goods from common bricks to the highest grade ceramics, glazed ware, etc.

HENRY WEBSTER AND SONS, 628 Lexington Avenue, Newport, Ky.

Kiln specialists and consulting engineers. Forty years of practical experience in clay products industries and continuous kilns.

Members N. B. M. A. U. S. A. Institute of Clay Workers Great Britain, Blue prints of kiln can be seen at Clay-Worker office, Indianapolis, Ind.



## American No. 292 Repress

When performance is considered the American No. 292 Repress is the best investment.

Designed for service as well as production it has an easy capacity which insures long life with little upkeep troubles.

All wearing parts are provided with wear resisting features. Gears are ample, bearings large. In a word it's a press you can depend upon.

Get the No. 292 Bulletin for details on this press.

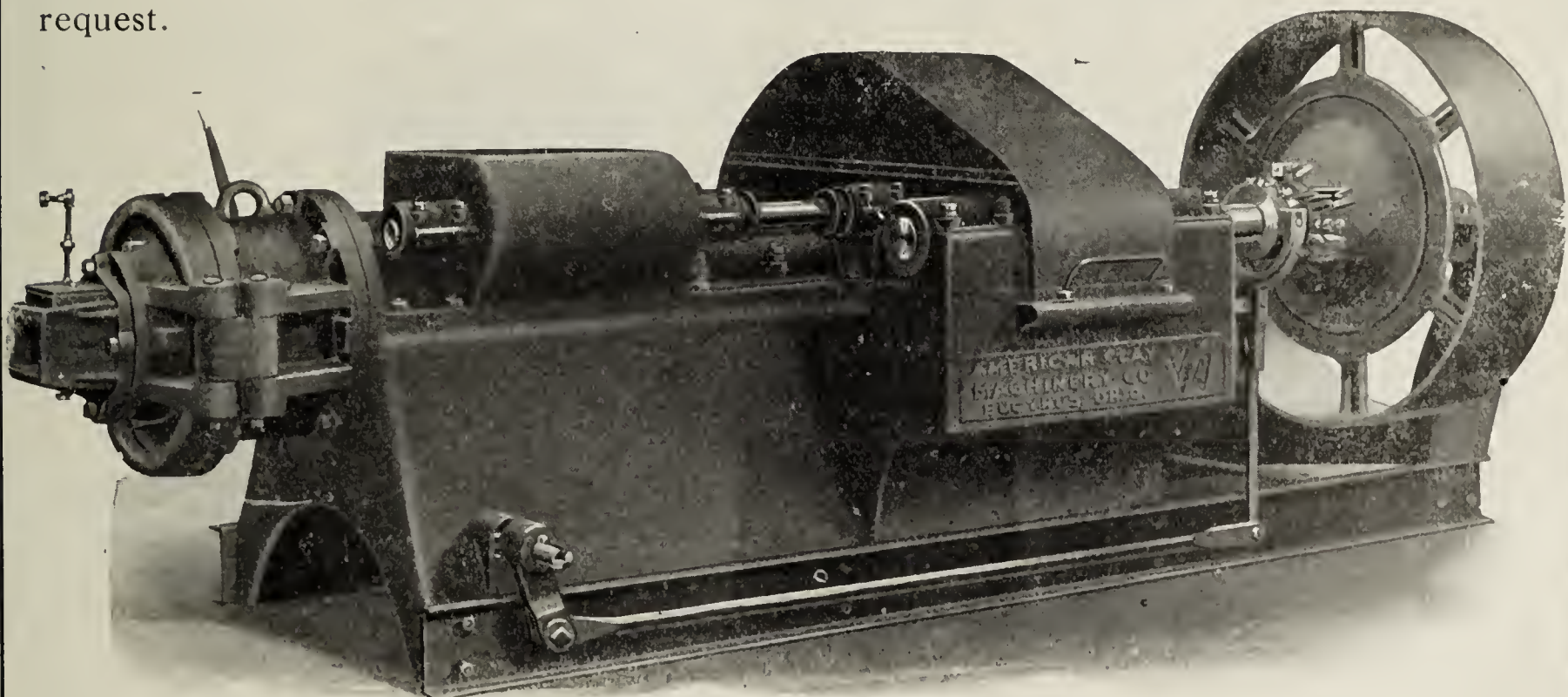
We also build every machine and appliance for making all kinds of Clay Products.



American No. 292 Repress

## American No. 290 Auger Machine

This is an ample machine both in proportion, strength and capacity. In every way it will please you. We will send you detailed description, list of users and testimonials on request.



American No. 290 Auger Machine

**The Hadfield-Penfield Steel Co., Bucyrus, Ohio**  
Formerly The American Clay Machinery Co.



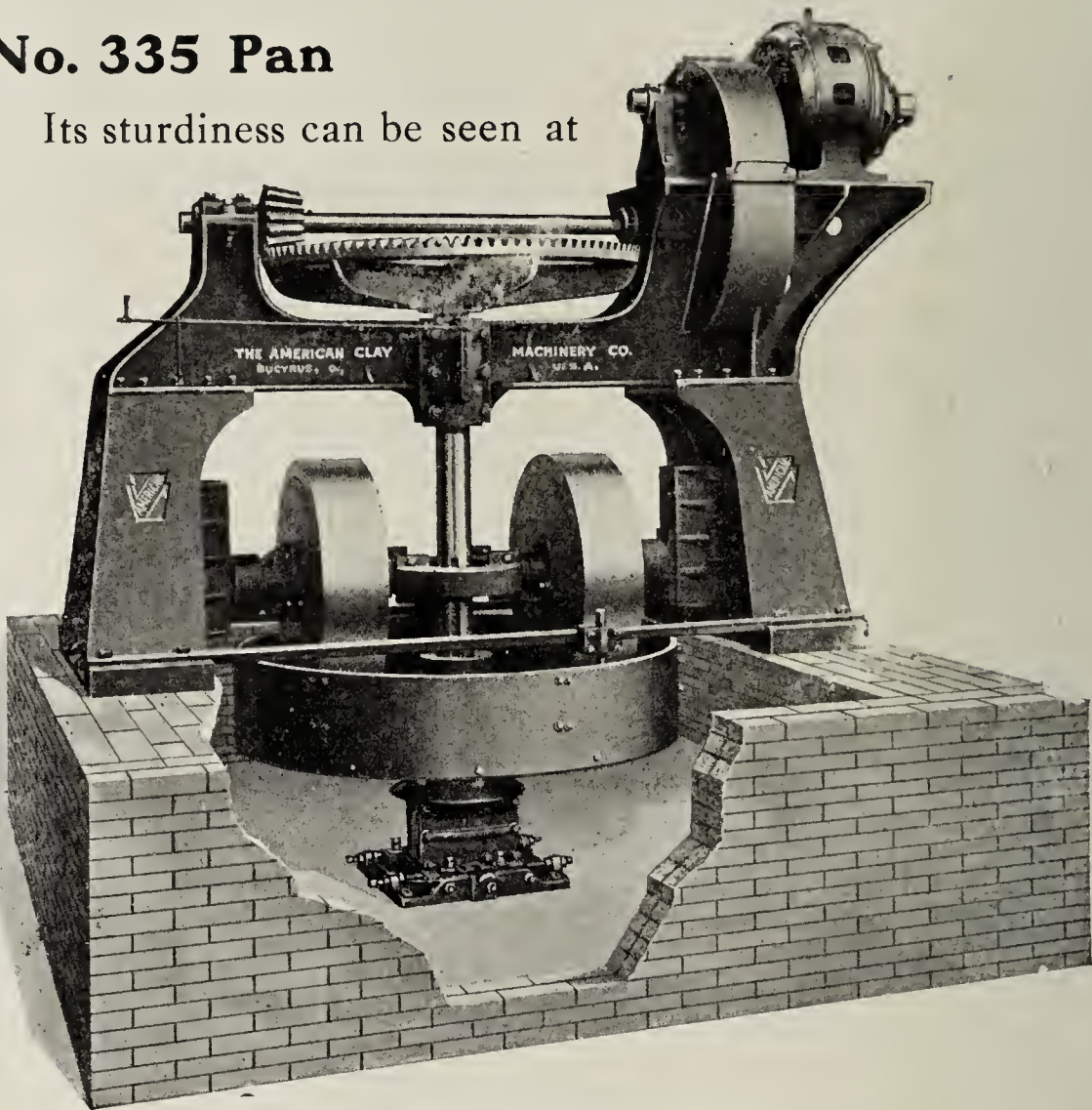
## American No. 335 Pan

This is a pan of production. Its sturdiness can be seen at a glance, and the specifications which we will be pleased to send you will show you where the detailed features of excellence are. This will be an excellent pan investment,

The No. 335 is well thought of by its users and its staying qualities will keep it on the job regardless of the hours of work.

Get the No. 335 Bulletin.

**The Hadfield-Penfield  
Steel Co.**  
Bucyrus, Ohio



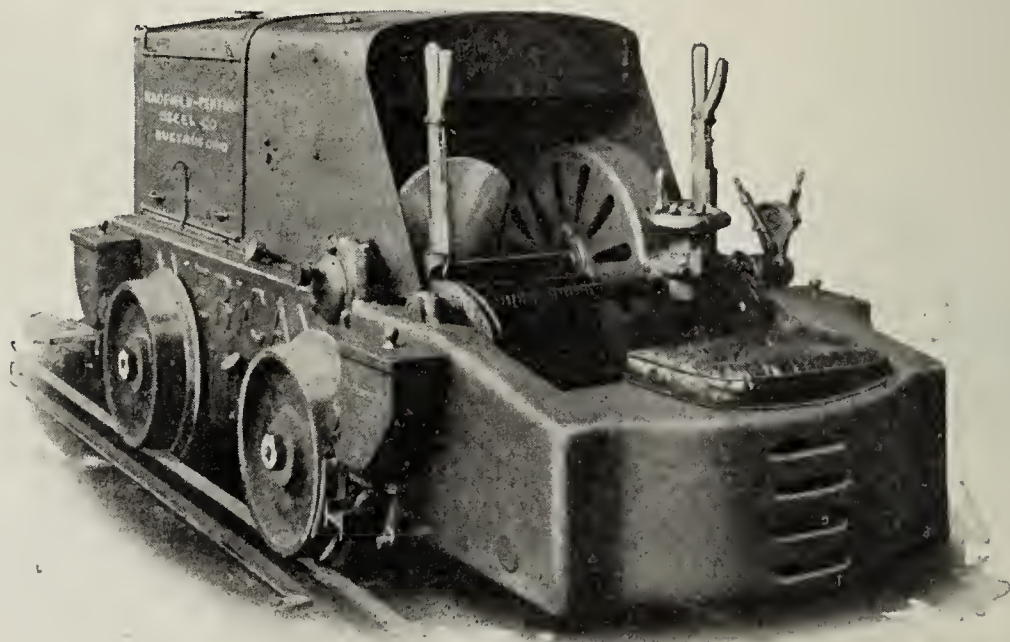
American No. 335 Dry Pan.

## American Gasoline Locomotive

A real locomotive without the disadvantages of steam or electricity. It beats any other moving power around a clay plant. Whether in the pit or on the yard or in the plant its simplicity, economy and flexibility makes a place for it to save and serve.

It's simple, durable, reliable. No licensed engineer required.

Send for catalog.



American Gasoline Locomotive.

**The Hadfield-Penfield Steel Co.**

Bucyrus, Ohio

Gasoline Locomotive Sales Department, 404 Hippodrome Bldg., Cleveland, Ohio



# Fate

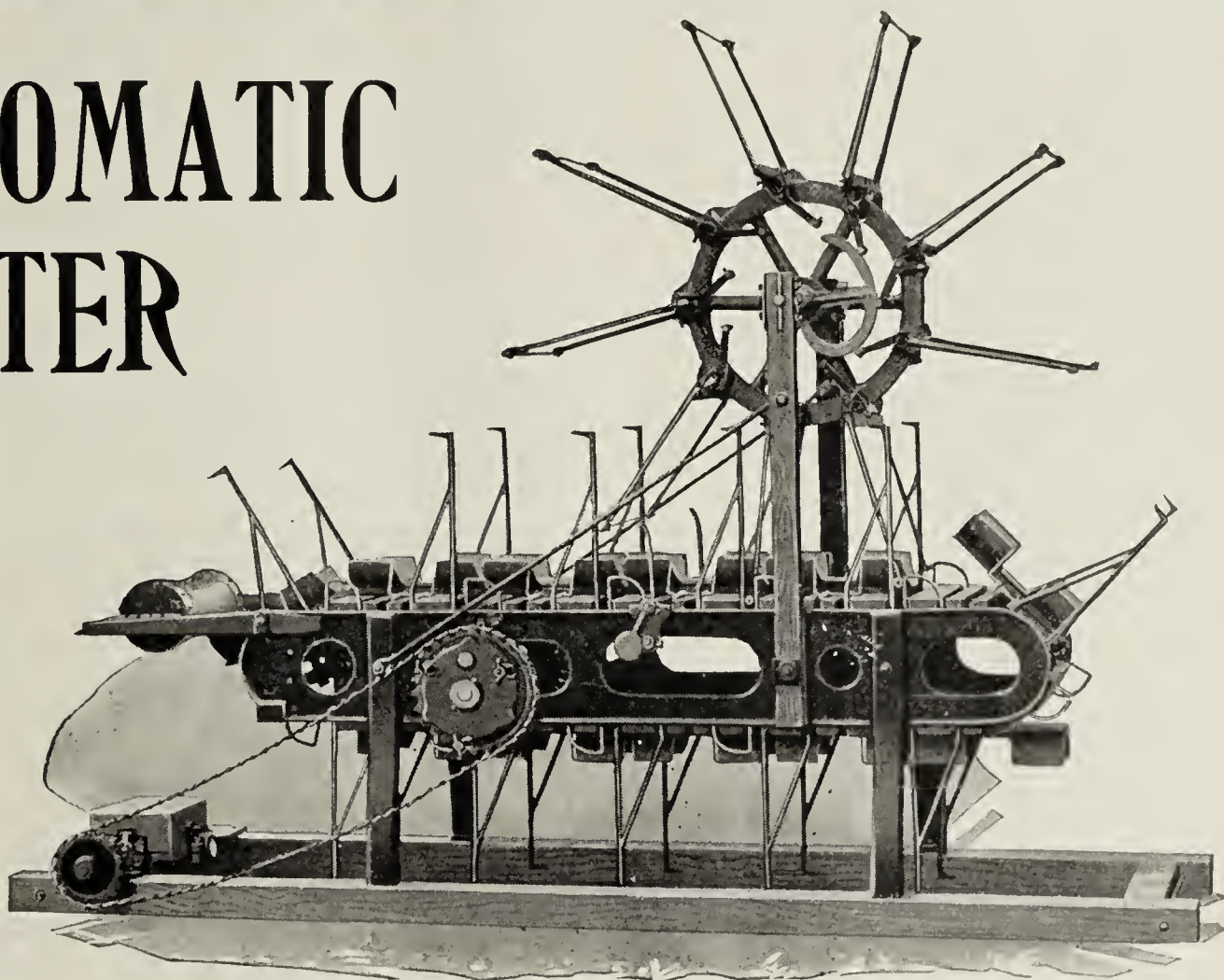
## CLAY-WORKING MACHINERY



Honor Built For The Ages

### AUTOMATIC CUTTER

TYPE  
2 AT

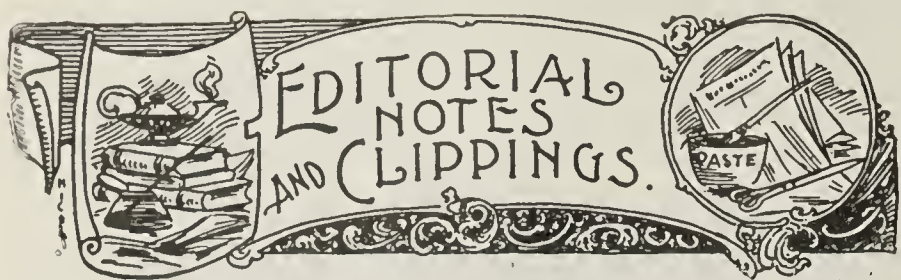


This Cutter may be supplied with double stream scoops for 3 and 4-inch drain tile. Made also with flat platens for building tile. Cuts column of clay 10 inches high and 11- $\frac{1}{2}$  inches wide. May be built 2 inches wider than regular, thus cutting 13- $\frac{1}{2}$  wide. Regular length cut is 13 inches, but built for any length from 10 to 18 inches.

We invite your inquiry on Cutters and Clay Machinery.

The Fate-Root-Heath Co., Plymouth,  
Ohio





The Kenilworth Tile Co., Newell, W. Va., is considering rebuilding its plant, recently destroyed by fire, with loss estimated at about \$30,000.

The Hampton Brick & Tile Company, Hampton, Iowa, will start the erection of their new plant early in the spring. J. C. Powers is secretary of the company.

The Queen City Brick & Tile Co., Evitts Creek, Cumberland, Md., will build an addition and install considerable new machinery. The work is estimated to cost about \$150,000.

C. C. Cocke, of Crofton, Fluvanna County, Va., advises us that he expects to erect a plant for the manufacture of brick and hollow tile this summer, and is in the market for either new or second hand equipment.

The United Shale Brick Co., of Ephrata, Pa., has been granted a charter. The incorporators are Milton B. Shirk of Stevens, G. Kinzer of Ephrata and M. Roppold of Denver. The company is capitalized at \$100,000.

John E. Reed, Cortland, N. Y., is going into the brick manufacturing business at that place, and would like to get in touch with a competent man to superintend the construction of a plant of 40,000 daily capacity.

The Builders Products Co., of Lake Charles, La., will build a new plant for the manufacture of brick, hollow tile, paving block, etc. Samuel Cummings is president and general manager.

George Heck and associates of San Diego, Calif., have organized a company to manufacture brick at that place. A site has been selected and work on the plant will begin at once.

Henry Webster, the kiln man of Newport, Ky., stopped at New Oxford, Pa., on his way home from the New York Convention, where he is erecting a large Webster kiln for Alwine Brothers Brick Company.

Union bricklayers of Seattle, Wash., voted a voluntary wage reduction of 10 per cent. in February, the new scale of \$9 a day to remain in effect one year, according to announcement of union officers. The announcement said the reduction was made to assist in stabilizing the city's building industry.

The McKnight Fire Brick Co., Porterville, Cal., has been merged with the Craycroft Brick Co., Fresno, Cal. The Porterville works will be removed to Fresno, where extensions will be made in the Craycroft works for the manufacture of fire brick and other refractory products. William Turner will be plant superintendent.

F. H. Haumerson, a retired brick manufacturer of Racine, Wis., died at his home in that city last month. Mr. Haumerson had been in the brick manufacturing business all his life, first in Germany, where he was born, and in Racine since the early seventies, only retiring from the firm of Haumerson & Sons about three years ago.

In order that it may at all times have an ample supply of brick for its own use the Mexican Aguila (Eagle) Petroleum Company has purchased the brick manufacturing plant of the Tampico (Mexico) Brick Company. The plant has a capacity of 250,000 bricks a month, and this output will be doubled when improvements are made.

Mr. Howard C. Arnold, well known in ceramic circles, has recently joined the staff of Arthur D. Little, Inc., of Cambridge, Mass. After the war, Arnold studied optical glass at the Bureau of Mines for a short time, and then became chief chemist and plant manager of B. F. Drakenfeld and Company, New York City, where he was chiefly concerned in developing ceramic materials, especially the coloring oxides."

The Hebron Fire and Press Brick Co., announces the removal of their general offices from Hebron to Fargo, N. Dak.

The Paloma Brick Company of Baton Rouge, La., is making a number of improvements at their plant, including the installation of a continuous kiln.

The Dexter Brick & Tile Company of Dexter, Mo., write they are building a new plant at that place, and are in the market for some second hand brick machinery and supplies.

G. B. Taylor, of Greensburg, Ky., writes that he is interested in a proposition to establish a brickmaking plant at that point, and would like to receive catalogues, etc.

The Eureka Fire Brick Company is making extensive improvements at its plant at Mount Braddock, Pa. The company announced a reduction of wages early in February and established a eight hour day with time and a half for overtime.

Improvements are being made in the plant of Wm. E. Martin & Sons, at LeClaire, Iowa, which will double the capacity of same. The plant has been completely electrified, a large dry kiln has been added, new hollow tile machine is being installed.

Bert L. Cassady, of Dresden, Ohio, and Bernard Puritan of Wellsville, have purchased the Brick and Tile Works at Lake Chippewa, Ohio. Mr. Cassady will resign his position as superintendent of the Wellsville plant of the McClain Fire Brick Co., and move to Lake Chippewa, where he will have the entire management of the newly purchased plant.

The Refractory Products Co., Fredericksburg, Va., has been incorporated with a capital of \$900,000 by W. S. Quigley, L. E. Turk and T. M. Cavin, to manufacture refractory and insulation materials. It is understood that the company will be affiliated with the Quigley Furnace Specialties Co., 26 Cortlandt Street, New York, manufacturer of kindred products.

The Pacific Clay Products Co., American Bank Building, Los Angeles, has preliminary plans under way for a new plant to manufacture firebrick and other refractories on a site adjoining its works at Los Nietos, Cal. The initial unit will have a capacity of about 25,000 bricks per day, and the second unit, to be erected later, will increase the output to 40,000.

The Brick and Supplies Corporation has been organized at Lansing, Mich., with \$100,000 capital stock. George P. Anderson, for a number of years identified with the building material business in Lansing and the middle west, is president and general manager. The other officers are vice-president, William H. Porter; secretary-treasurer, James F. Hammell.

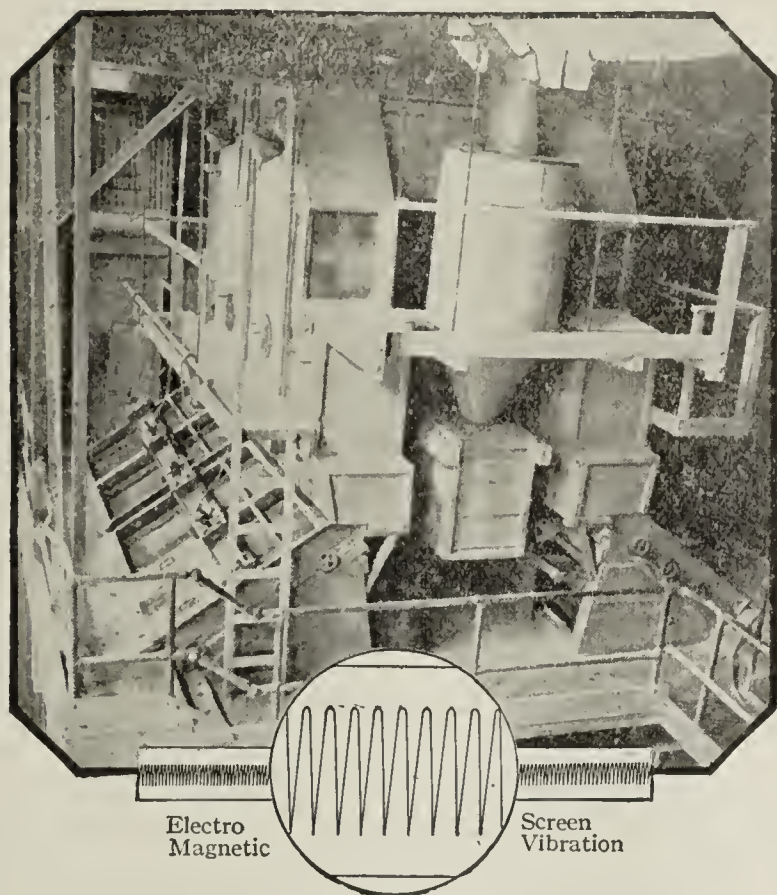
In a deal closed recently the brick plant located in Eastvale, Pa., known as the Douglass-Whisler plant, has been purchased by the Pittsburg Clay Products Company, of Pittsburg. This plant was purchased some time ago by the Cannelton Coal and Clay company who sold it to the new owners. It is understood the new company has completed some improvements and is preparing to start operations Monday.

The Gaddis-Harrison Brick Company of Columbus, Ohio, recently purchased property at East Broad and Fifth Sts., and are remodelling same into one of the most modern and up-to-date face brick offices in the state. A number of brick panels will be constructed, and there will be displays of hollow tile construction, and brick mantels. The company has had a very satisfactory winter season, booking a number of good orders for local delivery. R. W. Gaddis is president and treasurer, Charles F. Harrison, secretary and R. C. Harrison, vice-president of the company.

The building program which the Onondaga Pottery Company of Syracuse, N. Y., will begin this spring, it is said, will take at least five years to carry out. It may take longer, as plans already have been drawn for the largest pottery plant in America. These plans were put on paper last fall. Work will begin on the first unit of eight kilns as soon as the frost is out of the ground. The business of the Onondaga Pottery Company has experienced no decline. There is no evidence that it is going to. In fact, it is understood that the company has been unable to keep up with its orders for months, and that there is no immediate prospect that it will be able to meet demands.



## HUM-MER INCLINED SCREEN



## Used by Brick and Clay Companies

**T**HE low cost of screening by the HUM-MER method—and the large tonnages produced—makes screening practical and profitable.

It is a method of removing fines at a stage in the crushing process where it is most profitable.

The HUM-MER Electro-Magnetic Vibrating Screen is especially adapted to heavy duty—with low cost of upkeep.

The vibration is produced by means of an electro-magnet and is applied directly to a taut, drumhead tension screening surface.

The electro-magnet pulls the screen cloth upwards with a sharp impulse, the alternations of the current pulling up and releasing the screen at high speed, and a remarkable screening effect is produced.

NO LUBRICATION IS REQUIRED, as no cams, hammers, eccentrics, unbalanced shaft or other mechanical means of vibration are used.

• Less than four feet of headroom is required to install the type of HUM-MER furnished for mining work.

Catalogue No. 42-W sent upon request.

**THE W. S. TYLER COMPANY, Cleveland, Ohio**  
Manufacturers of woven wire screens and screening equipment

What  
HUM-MER  
Users Say

*"Handling Very Large Tonnages"*

"We have found the HUM-MER to be very satisfactory, handling very large tonnages and screening the coal very efficiently. It has given us practically no trouble and we are very well pleased with it."

*"Up to Expectations in Every Respect"*

"The operation of the HUM-MER is very satisfactory and comes up to our expectations in every respect."

*"Best Machine for Purpose"*

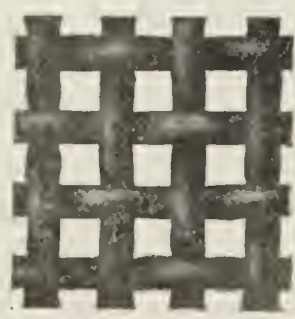
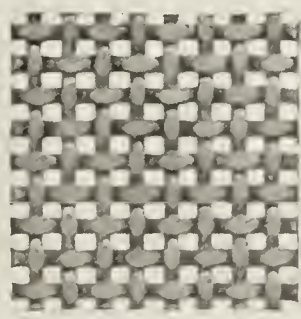
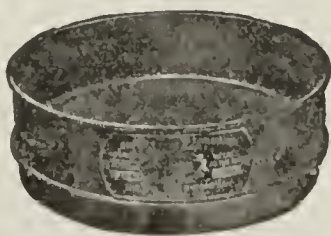
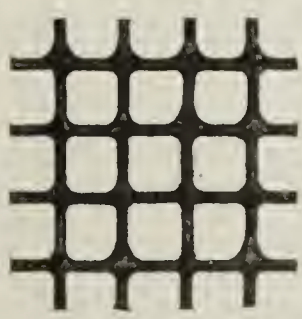
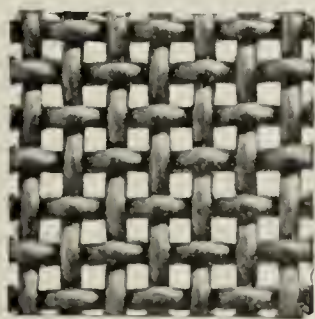
"I believe that the HUM-MER Screen is undoubtedly the best machine on the market for the purpose, and we have been very much pleased with the attitude of the Tyler Company with regard to equipment which we have purchased from them."

*"Glad to Recommend It"*

"We are pleased to state that the HUM-MER Screen has given entire satisfaction, and shall be glad to recommend it to anyone contemplating putting in screening machinery."

*"Satisfactory in Every Respect"*

"We have for some time been using HUM-MER Screens made by The W. S. Tyler Company, of Cleveland, Ohio, and have found them satisfactory in every respect, and therefore have no hesitancy in recommending them."





## AMERICAN CERAMIC SOCIETY.

(Continued from page 261.)

done in grasping the opportunities we have today. He stated that the first and foremost need of the clay industry is not so much new technical information as it is the ability and willingness to apply that which we already have. We need common sense engineering in the manufacture of brick and tile and a technically trained personnel on each plant instead of in a distant laboratory. He stated that the industry is essentially one of small investment and comparatively widely scattered units and that each district has to deal with a material peculiar to itself and the plant organization must develop an ability to apply good mechanical engineering and general ceramic information to the local situation. The common sense application of good mechanics, sound construction and known technology can easily reduce the cost of clay ware manufacture twenty-five per cent. There are hundreds of hand fed dry pans in use, hundreds of dust bins that must be shoveled out, thousands of slide valve engines, scaly boilers, unpainted buildings, thousands of steam and water leaks and miles of uninsulated steam lines for none of which a laboratory is responsible or a curative. The path of rusting machinery and discouraged men can be eliminated to a great extent by the use of common sense application.

He declared that the burning time could be shortened and hence the cost of manufacture lowered by the proper use of the pyrometers, draft gages, CO<sub>2</sub> recorders, Orsat apparatus, hygrometers and anemometers, that little if any intelligent application has been made in this connection and that some plants are using same, but not properly. He pointed out the fact that few manufacturers buy their coal on a guaranteed heat unit basis, although the fuel economy of any furnace depends upon the factors measured only by these instruments and the heating value of the fuel depends upon the heat units it will produce. Another item of importance is the waste of heat by radiation, though clay manufacturers cover their boilers and steam lines that they seldom insulate their kilns where the loss in the average plant is generally 20 per cent. He mentioned the neglect in kiln repairs, especially on multiple stack kilns where very often the draft through the kiln walls is stronger than through the stack and much of the developed heat never gets into the kiln at all; heat loss is also common in the simple round down draft kiln. Manufacturers should hire and keep a man whose duty would be to take and apply intelligently gas analysis and draft gage readings, for in so doing a big saving in the cost of burning would be secured. Technical men should be employed (at sufficient salary to keep them there) who can adapt processes and appliances curative of the evils now prevalent. Capital must be put into brains and equipment instead of expenses into common labor. The efficient plant is the one that is best mechanically equipped, doing away with wheel-barrows and man power in loading and unloading raw materials, coal, etc.

Following the discussion on this paper R. F. Geller, Washington, D. C., read a paper on the subject, "The Watersmoking of Clays," and reviewed the work of an investigation along this particular line of three different clays, a plastic brick clay, a fire clay and a shale, the results of which showed that it is necessary to dry at about 100 degrees, the steam should be removed as rapidly as possible from the kiln (good draft saves time in drying), that in the drying of ware the heat inside the ware should compare favorably with the heat on the outside, that 24 hours was the minimum for drying, while the heat was raised about 12 degrees per hour and 250 degrees was the minimum heat required.

This paper called forth quite a little discussion, Marion Blair making the point that if the volume of steam is not removed rapidly by mechanical draft the lower brick in the kiln are apt to be softened.

Chairman Riddle then introduced A. V. Bleininger, who made a short talk on the progress that had been made up to that time in regards to the proposed research work to be done through the American Ceramic Society, co-operating with the National Research Council, the U. S. Bureau of Mines and the U. S. Bureau of Standards. He stated that several meetings had been held in conjunction with the secretaries of other clay product associations and they in turn through consultation with their executive committees and boards had agreed to raise an equal sum of money for research work, the Heavy Clay Products Division of the American Ceramic Society in co-operation with Federal Bureaus to be the clearing house. The total sum to be raised for

the first year's work was fixed at \$10,000 as the minimum. The work is to be carried over a two-year period at least and the second year the fund is to be approximately \$20,000 if possible. The first research work will be on real fundamentals in burning heavy clay products.

This movement was started by the National Research Council and at a meeting of the representatives of the Federal Bureaus and the Research Council in the Deshler Hotel that morning, the general plan of the first year's work was outlined, i. e., first, to find out the specific heat requirements of clays, to study absorption of heat during phases of water-smoking, dehydration and vitrification, to study effect of gases and to make a general survey of the kiln situation, including a study of semi-commercial kiln operations. Fellowships for carrying out this work were to be paid for by the associations.

W. P. Blair pointed out the fact that the agricultural department received adequate appropriation for investigation of plant disease, etc., and that the farmer did not have to pay one cent, but that the clay products industry which was a most important one, of almost as much value as agricultural, received very small appropriations. He urged that progressive steps be taken to show Congress the need of proper recognition in this respect and that the Federal Bureau be given the support justified. He stated that three million to the Federal Bureau of Standards and Mines while the Bureau of Agriculture received over thirty millions, was decidedly unfair.

Two letters were read from absent members, giving their support to the movement, namely, J. R. Thomas of the Standard Brick Co., Crawfordsville, Ind., and E. W. Daley of North Iowa Brick and Tile Co., Mason City, Ia.

At the opening of the afternoon session the following report of the committee appointed in the morning was read.

"It is the sense of this committee that the activities of the Heavy Clay Products Division shall embrace the following interests unless otherwise provided for in the Society, common brick, paving brick, face brick, sewer pipe, hollow building tile, drain tile, promenade and quarry tile and any other lines that may be properly included in this division.

It is expected that the division shall act as a clearing house and publicity medium for the information to be derived from the technical investigation proposed to be financed by the association's activity controlling the above lines.

It is urged that in so far as possible the investigation to be undertaken shall be interpreted and applied in such a way as to be immediately available upon the respective plants represented.

It is also urged that membership be solicited particularly among the men in active charge of manufacturing operations and that they be encouraged in every way to prepare and present papers and discussions for the programs of the division dealing with their every day tasks and problems."

The report was adopted as read.

Ross C. Purdy was elected permanent chairman, C. F. Tefft, secretary.

Mr. Purdy made a short talk urging co-operation and stated that the division was going to accomplish things, that an active campaign would be started and everything possible done to make it worth while.

Talks were made by Douglas Stevens, W. P. Blair, M. Greenough, F. Brand and others.

The chairman was instructed to appoint a committee of three to draft proper by-laws, etc., and consider general line of work of the division. Mr. Purdy declared he would not select the committee at that time, but would take this matter under careful advisement, for he considered it a very important decision.

## Meeting of Terra Cotta Division.

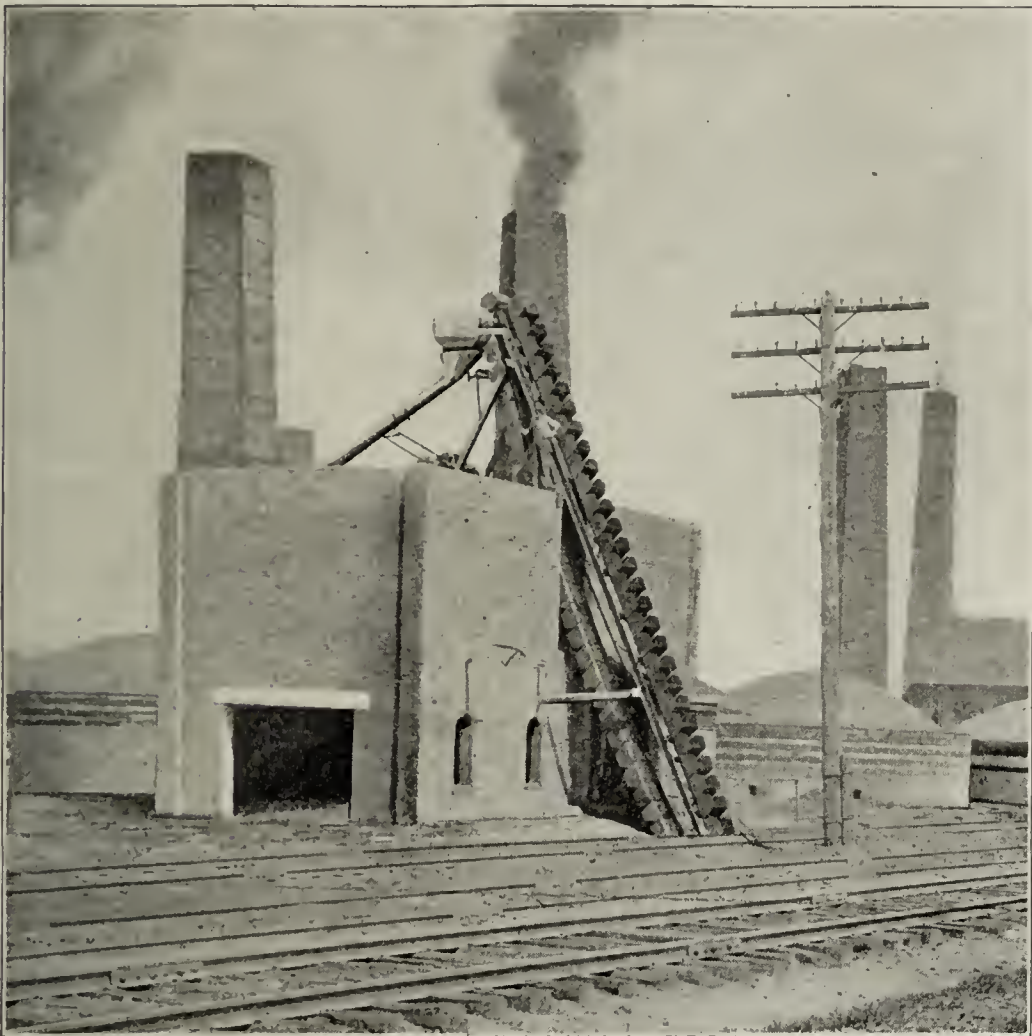
The Terra Cotta Division had for its officers, F. Ortman, chairman, and R. L. Clare, secretary. Nine papers were read and discussed, namely: A Terra Cotta Industry for Ohio, by A. S. Watts, Columbus, Ohio; The Value of Ageing the Terra Cotta Body, by R. L. Clare, Woodbridge, N. J.; A New Mechanical Method for Applying the Terra Cotta Finish, by M. E. Gates, Terra Cotta, Ill.; Terra Cotta Kiln Slabs, by E. C. Hill, Philadelphia, Pa.; The Application of Producer Gas to Periodic Muffle Kilns, by F. B. Ortman, Chicago, Ill.; Some Experiments on the Fire Cracking of Terra Cotta, E. C. Hill, Philadelphia, Pa.; Possibilities of Casting Terra Cotta, by R. F. Geller, Washington, D. C.; A Humidity Dryer for Terra Cotta, by M. E. Gates, Terra Cotta, Ill., and Humidity Drying, by F. B. Ortman and H. E. Davis, Chicago, Ill.

Mr. Watts' paper pointed out possibilities of manufac-

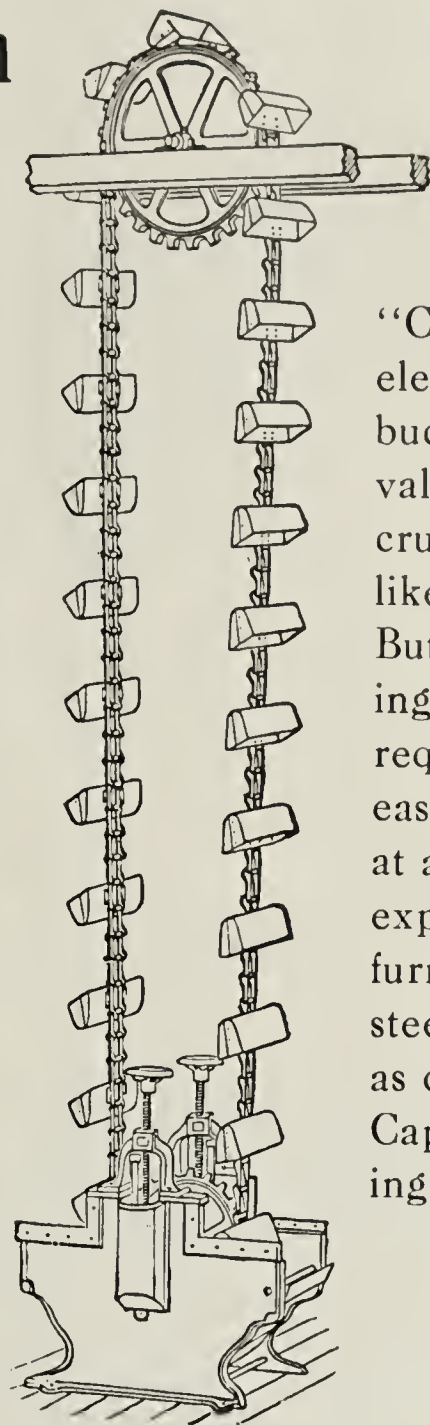
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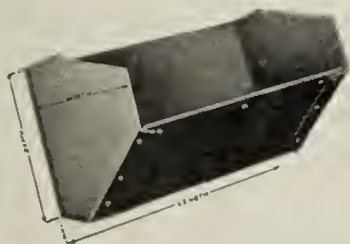
## Unloading for Three Cents per Ton



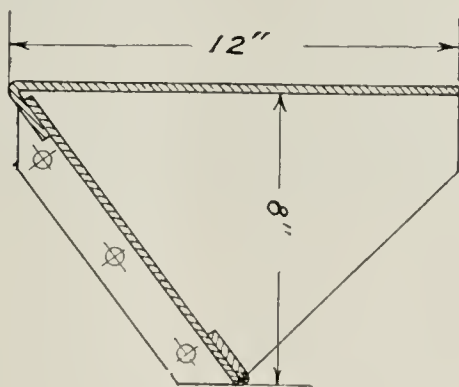
Representing the "COLUMBUS" machine unloading into overhead bin storage, the reciprocating feeder discharging the coal directly into the 24-inch continuous bucket elevator, which discharges through receiving hopper onto pivoted chute for uniform distribution through a three hundred ton, or less, storage bin.



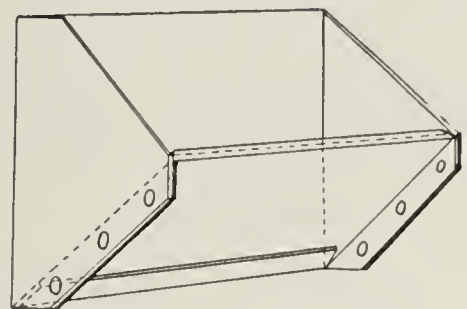
THE "COLUMBUS" elevator with buckets at intervals for handling crushed shale or like material. But little supporting structure is required, making easy to install and at a very small expense. Buckets furnished either steel or malleable, as desired. Capacity regulating size.



STYLE "A"



STYLE "C"



We manufacture a complete line of steel and malleable buckets, furnished in any size or shape desired. Your special attention is called to our type "C" continuous bucket. Note, please the ends and back of this bucket are formed from one piece with the bottom riveted in such a manner that the rivets are on the outside. With this construction, the rivet heads do not come in contact with the material, thus eliminating the annoyance of the buckets pulling apart, due to the rivet heads wearing off. Let us quote you on your requirements, please.

# THE COLUMBUS CONVEYOR COMPANY

## Columbus, Ohio

Mention THE CLAY-WORKER.



## AMERICAN CERAMIC SOCIETY.

(Continued from page 286.)

turing of Terra Cotta in Ohio, Mr. Clare's paper presented the first real data on physical results on body caused by the ageing process. Mr. Hill's paper showed interesting developments, while M. E. Gates and F. B. Ortman presented papers which received the greatest discussion. M. E. Gates described his new method of applying the speckled glaze automatically onto the piece and in describing his humidity dryer, declared that they dried all kinds of terra cotta in their new dryer by use of humidity principle, in only 12 hours. Mr. Ortman, in his two papers, gave first data that would indicate that producer gas is not applicable to muffle kiln, while second, interesting thoughts and facts regarding the installation of a carrier dryer in the Northwestern Terra Cotta Company's plant.

The officers selected for current year are Adolph Hottinger, chairman; R. L. Clare, secretary, and E. C. Hill and M. E. Gates, councillors.

## Meeting of Decorative Processes Division.

The division attended the first part of the meeting of the White Ware Division and later adjourned to Room 1111 for the reading of papers and for the discussion of necessary business. Mr. William W. Wilkins, Chicago, Ill., was made temporary chairman.

The following papers were read: "The Mutual Relation of Art and Technics in Our Industry," Leon V. Solon, Art Director, American Encaustic Tiling Company, New York. "Relation of the Artist to the Manufacturer," Conrad Dressler, sculptor, potter, inventor of the Dressler Tunnel Kiln, Cleveland, Ohio. "Some Suggestions for Research in Commercial Ceramic Decorative Processes," Frederick H. Rhead, Director Research, American Encaustic Tiling Company, Zanesville, Ohio.

Following a discussion in regard to the name of this division it was proposed by Mr. John W. Hasburg and seconded by Mr. Leon V. Solon that the new activity be named The Art Division of the American Ceramic Society. The following officers were elected: Frederick H. Rhead, Zanesville, Ohio, Chairman; R. Guy Cowan, Cleveland, Ohio, Vice Chairman; Mable C. Farren, Pittsburgh, Pa., Secretary-Treasurer; Mr. Leon V. Solon was elected councillor for the architectural, faience and terra cotta treatments. The election of the three remaining councillors, white ware, art pottery and educational work, is to be voted upon later. The members present wished to give this matter some consideration and names are to be submitted and later voted upon.

There was some discussion in regard to proposed activities for the coming year. Efforts are to be made to interest manufacturers and those interested in the educational side of the work, studio potters, and the practical workers in the pottery industry. These elements are vitally concerned in the program of The Art Division. It was proposed and seconded that a tentative program be made and submitted at an early date for the consideration of the members. The various interests mentioned are to be then approached, and their consideration and suggestions sought.

In conclusion, it was decided that the principal activities for the first year were to be along the direction of including in the membership the various allied activities, and the educational element not yet connected with this society, and also to have an exhibit which will be passed upon by a jury to be named later.

A vote of thanks was given to Miss Margaret Cable for the very interesting exhibit of pottery work which was made under her direction at the University of North Dakota.

## Other Divisional Meetings.

The Enamels Division had a very long session during which sixteen papers were read and discussed on various subjects, including cast iron enamels, copper enamels, porcelain enamels, fish scaling and enamel apparatus. R. R. Danielson was chairman of this division.

The Glass Division heard the reading and discussion of nine papers, including, "The Training of Glass Works Chemists," "Some Chemical and Physical Data on Glass Sand," "Composition of Barium Glass," "Dissolved Gases in Glass," "A Thermal Study of Some Members of the System Pbo and Sioz," and "Some Considerations in the Construction and Use of Pot Arches." Mr. E. W. Tillotson was Secretary of this division, while W. M. Clark was acting chairman.

## The Banquet.

Tuesday evening approximately 250 ceramists enjoyed a banquet held in the ball room. Jazz music and lively songs were furnished by Tom Howard's Happy Harmonists' orchestra. A song leader also put some pep into the proceedings. Col. Edward Orton served admirably as toastmaster.

Speeches were made by Forest K. Pence, Zanesville, Ohio; Dr. E. W. Washburn, Urbana, Ill.; R. C. Burton, Zanesville, Ohio, and W. D. Gates, Chicago, Ill.

On opposite pages of the menu appeared the pictures of George Washington, "The Father of Our Country," and Edward Orton, "The Father of Your Society." Attractive souvenirs, ash trays and napkin rings were placed at each plate. The ash tray was decorated with a crystalline glaze, while the napkin ring was a miniature of the Ohio State Stadium, designed by Carl Harrop. Both were executed at the Ceramic school under supervision of A. S. Watts.

## A Session on Kilns.

Wednesday morning's session was for the most part devoted to the reading and discussion of papers on kilns, but two important matters were handled before the business of the session was inaugurated.

Col. Orton paid high honor to the name of Ernest Mayor and read the resolution printed on page 259 of this issue.

This was approved and the President appointed the following committee: Edward Orton, Jr., chairman; Frances W. Walker, Albert V. Bleininger, B. E. Salisbury and H. F. Staley.

W. D. Gates paid a tribute to Col. Orton for his splendid work for the Society, spoke of the important part he had played in the upbuilding of same and moved that suitable action be taken to express the Society's appreciation in this respect. Francis W. Walker, in seconding the motion, complimented Col. Orton highly, not only for his effort in behalf of the Society, but also for the government, and suggested that the expression of the Society's appreciation be printed on parchment and presented to Col. Orton. Ross C. Purdy also made appropriate remarks, giving full credit to Col. Orton for much good work he has accomplished for the Society.

The motion was unanimously carried by rising vote and the president appointed W. D. Gates, Francis Walker and Stanley Burt as the committee to attend to this matter.

The kiln session was then taken up. The first paper being, "Observations on a Tunnel Kiln Operating Seven Months at Cone 18," by Joseph A. Jeffrey and F. H. Riddle, Detroit, Mich. Mr. Riddle stated that the manufacturers of refractories do not really know what their ware is not good for, on account of the difficulty of testing it at high temperatures. He declared that the tunnel kiln can be very successfully used in burning electrical porcelain, that their plant is operating one and is going to build a second for this same purpose.

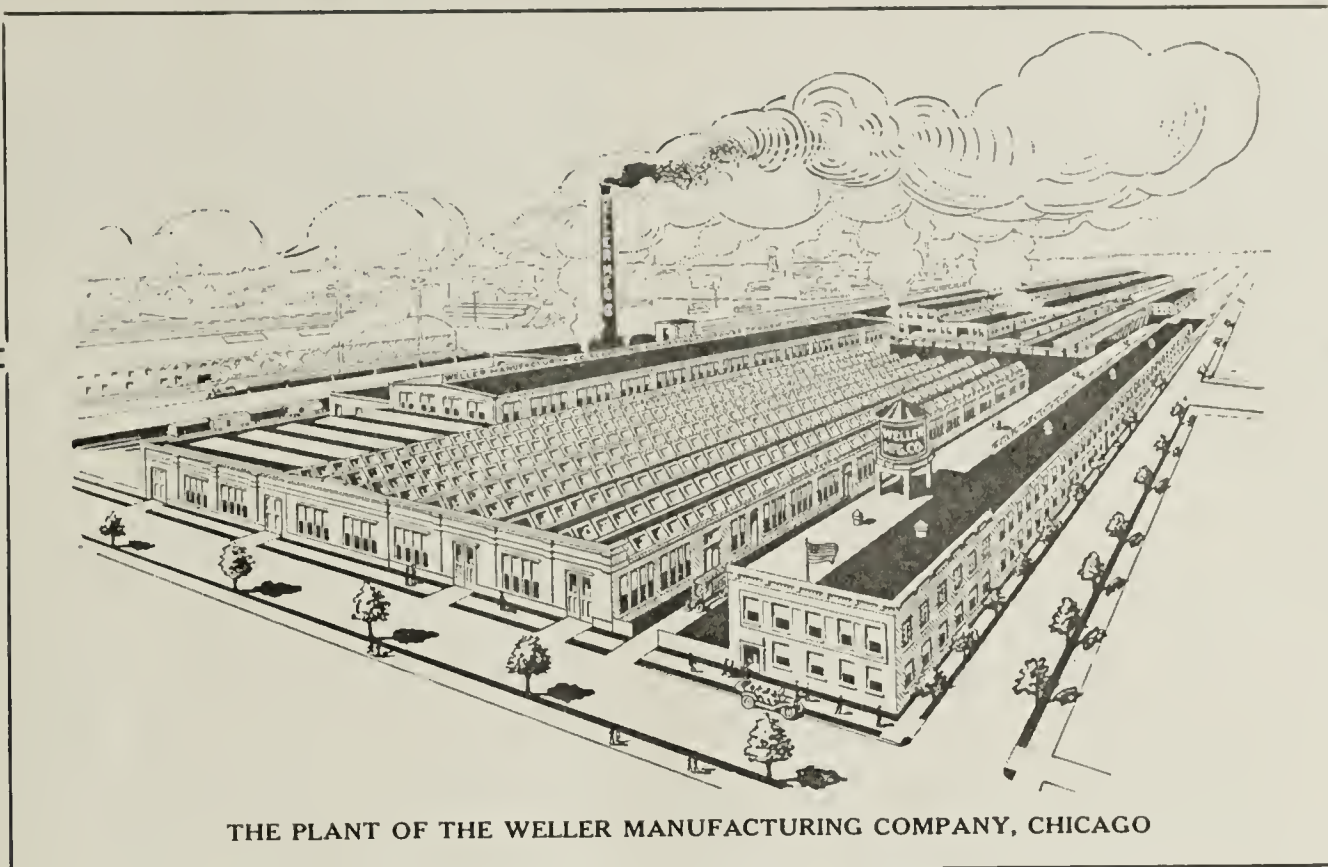
A Study of Tunnel Kilns at Mount Clemens Pottery Co. plant, Mt. Clemens, Mich., was the title of Carl Harrop's paper. He has installed two kilns there burning semi-porcelain table ware. The bisque kiln is 323 feet long and burns to cone 10. The second for glost is 273½ feet long and burns to cone 5. 278 dozen pieces of ware are placed on each car, it requiring 1.22 pounds per dozen, as against 7.8 pounds of coal per dozen in periodic kilns. He stated that these kilns had been run 7,200 dozen per 24 hours. The two kilns have a capacity equivalent to 24 periodic kilns and the kiln losses are much lower.

In "The Adaptability of the Compartment Kiln for Clay Products," by W. D. Richardson, Columbus, Ohio, the author, showed that producer gas made possible the success of the compartment kiln and with same it has a wide range of usefulness, claiming that it is the best type of kiln for burning face brick. He described the kiln and its operation and explained that the more refractory the ware, the quicker the burning, and that some ware was burned in 24 hours. The producer gas fired continuous compartment kiln consumed one-half the coal required on a periodic kiln and had the advantage of being more compact, and reducing labor due to less handling of material, coal, etc.

President Minton then made a short talk on the kilns of Germany and England, stating that while the tunnel kiln was common in Germany it was taboo in England, where the compartment kiln is popular. He is much impressed with the Shaw compartment kiln and the use of gas producer. It is his opinion that the compartment kiln is best, for it can burn any amount of production but the tunnel kiln requires a constant production to keep operating with efficiency.

(Continued on page 290.)



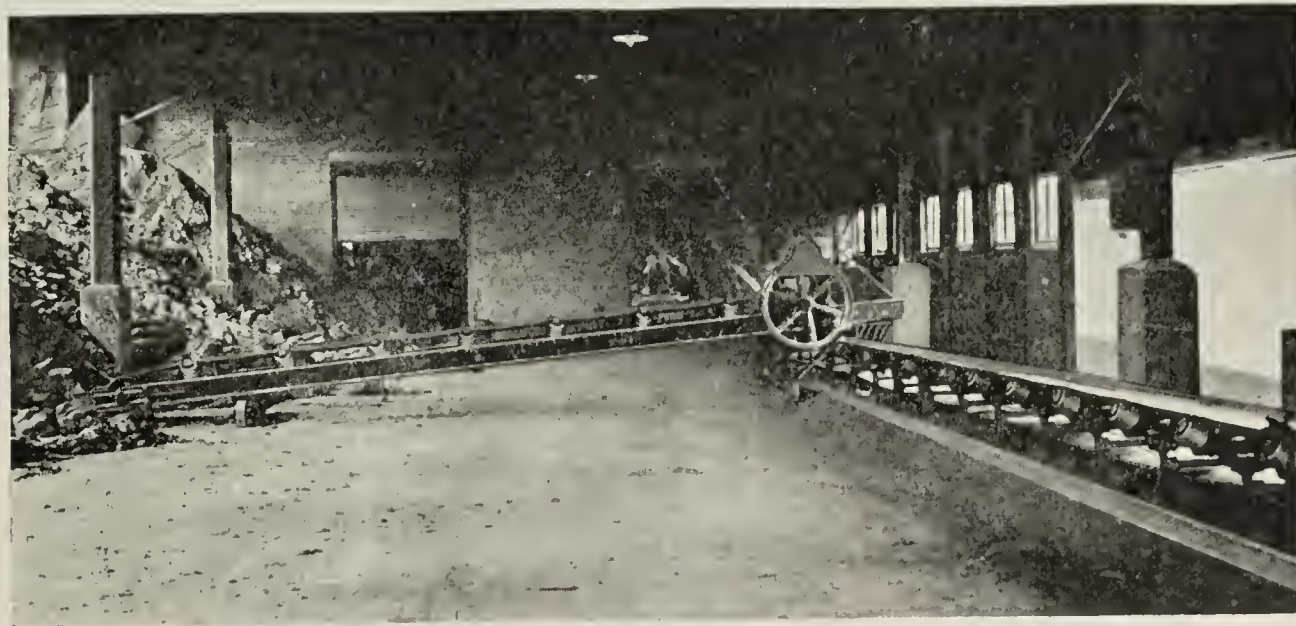


THE PLANT OF THE WELLER MANUFACTURING COMPANY, CHICAGO

## ELEVATING, CONVEYING AND POWER TRANSMITTING MACHINERY FOR CLAYWORKING PLANTS



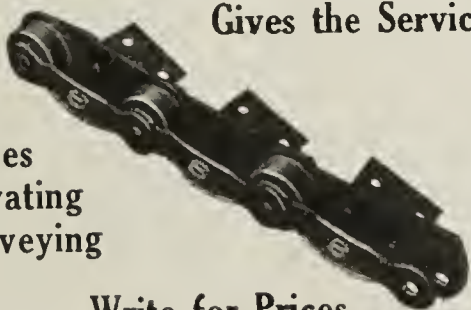
THE MARK  
OF QUALITY



WELLER BELT CONVEYOR INSTALLED IN A CHICAGO BRICK PLANT.

WELLER MADE STEEL CHAIN  
Gives the Service

For  
Drives  
Elevating  
Conveying



Write for Prices

We Design and Make  
Apron Conveyors, Belt Conveyors, Drag Conveyors,  
Bucket Conveyors, Pan Conveyors, Spiral Conveyors,  
Bucket Elevators, Dump Cars, Trucks,  
Pulleys, Hangers, Bearings, Friction Clutches,  
Sprockets, Gears, Shafting, etc.  
Coal Handling Equipment.

*Send us your inquiries.*

# THE WELLER MANUFACTURING COMPANY

## CHICAGO

New York

Boston

Baltimore

Pittsburgh

San Francisco

Salt Lake City



## AMERICAN CERAMIC SOCIETY.

(Continued from page 288.)

The Use and Application of Producer Gas for Burning Clay Ware in Periodic Kilns and Heating Other Furnaces of the Non-Regenerative Types and Railroad Tunnel Kilns, by I. M. Justice and E. W. Knapp, Dayton, Ohio, pointed out the fact that producer gas has been used over 60 years, and has proven its advantages on solid fuel. It is used in wide range of industries, a few of which Mr. Justice named. He declared that the U. S. Brick Co., Tell City, Ind., burned their periodic kilns with producer gas in 74 hours. He showed saving in coal, labor, and percentage of good ware burned at the Tell City plant, also plants at Huntingburg, Ind., Sumter Brick Works, Sumter, S. C., and other plants. It was a very illuminating paper.

The Layout of a Brick Plant With a Tunnel kiln, by T. W. Garve, Columbus, Ohio, was illustrated by lantern slides which showed the general layout of the plant of the Franklin Brick and Tile Co. The talk was very interesting and detailed the construction work on this splendid plant which is nearing point of completion.

Application of Heat to Kilns and Furnaces, was the title of a paper read by Gerald Fitz-Gerald, Muncie, Ind.

The last paper on the program was by Philip Dressler, on the Case for the Saggerless Car. He showed use of saggerless car in bisque burn in Dressler kiln and gave figures as to increased production decreased cost of material and marked labor saving.

The final business of the Society was then taken up, beginning with a report of the auditing committee, which accepted the financial statement as read.

Mr. Watts read the report of the Rules Committee which consisted of a new constitution and by-laws to take place of the old rules of the Society. Among the important changes was one on methods of election. According to new rule, the nominating committee selected by Board of Trustees, consists of the secretary, as chairman without vote, the two past presidents and one member from each of the various divisions, increasing the nominating committee from five to ten mem-

bers. Any other nominating committee shall consist of ten members, five of which are to be active members.

The committee on rules is to consist of five members.

The chairman of each committee is to be appointed by the Board of Trustees.

The publication of all papers and discussion before general sessions are to be property of the American Ceramic Society, and no papers read before the divisions shall be published, other than in the Journal of the American Ceramic Society until permission is granted by the Board of Trustees.

A committee was appointed to take such action as necessary to effectively combat the need of legislation by state on lead poisoning in ceramic plants. Preventive measures will be carefully considered and advocated to safeguard the worker.

Dr. Washburn moved that the A. C. S. accept the invitation extended by the English Society of Glass Technology to meet with them in England in 1922. It is hoped a suitable delegation from this country will be present.

A special report of the Board of Trustees stated that it did not look favorably at this time upon the question of full time secretary and that further consideration should be taken. The committee appointed to consider the matter consists of A. V. Bleininger, chairman; E. P. Post and R. H. Minton.

The election of officers was followed by installation. F. K. Pence, President; F. B. Ortman, Vice-President; R. M. Howe, Trustee, and R. H. Hursh, Treasurer, each in turn making appropriate remarks.

The names of associate members raised to active membership were then read by the Secretary. This showed a total of 86 associate residence members raised to active resident membership and 9 foreign associate members raised to foreign active membership.

The standing committees for the current year were read, the chairman of each being, Research and Development, L. J. Shaw; Rules, A. S. Watts; Standards, M. M. Beecher; Publications, R. H. Minton; Papers and Programs, R. D. Landrum; Membership, F. H. Riddle; Sections and Divisions, J. B. Shaw, and Ceramic Research, A. V. Bleininger.

It was announced that the next mid-summer meeting would

(Continued on page 292.)

## TUNNEL KILNS

Direct Fired

SINGLE OR TWIN DESIGNS

Built by

RUSSELL ENGINEERING CO.

Railway Exchange Bldg.

ST. LOUIS, MO.

Write for particulars.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

## THE MANUFACTURERS EQUIPMENT CO.

DAYTON, OHIO, U. S. A.



## REDUCE LABOR AND OPERATING COST With Our ONE-MAN EXCAVATOR



It is no longer necessary for even the smaller operators to depend on the slow, uncertain, and production hindering factor of hand labor. THE BAY CITY EXCAVATOR will handle sufficient material for the plant making 25 to 100,000 brick, will give a good mixture and do the work of several men.

**Economical — Practical — Dependable.**

Read what this satisfied user says:

"Clio, Mich., Nov. 16, 1920.

"Bay City Dredge Works,

"Bay City, Mich.

"Gentlemen:

"Replying to your inquiry of recent date regarding the operation of our  $\frac{3}{8}$ -yard excavator, we are pleased to say that it has given us entire satisfaction.

We have been working in a nine foot bank of hard, tough clay and have delivered to the brick machine sufficient clay for a daily run of 32,000 brick, with the excavator in operation less than 50% of the time, with a crew of three men, consisting of the operator and two drivers. With the installation of larger conveyances for hauling the clay we are convinced that the services of one of the drivers can be eliminated, thus requiring but two men where five and six men were formerly necessary.

"An added feature which has greatly appealed to us is the perfect mixture from bottom to top of the various clay strata with every dipper, making an improved and more uniformly finished product.

"Again expressing our entire satisfaction, we are

"Yours truly,

(Signed) "L. J. & C. E. SCHOLL."

**Write for Catalog 3.**

**BAY CITY DREDGE WORKS  
BAY CITY, MICH.**

## AMERICAN CERAMIC SOCIETY.

(Continued from Page 290.)

be held at some point in eastern or southeastern Ohio, where a trip on the Ohio River could be included in the program. East Liverpool, Ohio, is thought an ideal location.

No definite action as to the next annual meeting place was taken, although St. Louis, Mo., was the common talk convention week. A fixed rule of the Society has been that the convention shall be held east of the Mississippi River and north of the Mason Dixon Line. If the Society decides to go to St. Louis this rule would have to go unobserved or changed for the occasion.

## ILLINOIS CLAYWORKERS' MEETING

(Continued from Page 280.)

by W. A. Buell, of the Barber Green Conveyor Co., Aurora, Ill., but it was found a lantern could not be used, so the speaker told of the use of automatic conveyors, mostly of the belt type, which is being used in many clayworking plants with decided economy.

In the personal and informal talk-fest which followed M. John Kinsey, of the Weller Mfg. Co., Chicago, told the delegates of the elevating, conveying and power transmitting machinery of the Weller brand which is lessening the labor bills for many of the clay men and clinched his argument by presenting each visitor with a handy memorandum book in which Weller devices are illustrated in miniature.

The dinner at 6:30 was slimly attended but was none the less enjoyable to those who participated.

The election of officers resulted as follows:

Eben Rodgers, Alton, Ill., president; B. H. Richards, Jr., Edwardsville, Ill., vice-president; Cullen W. Parmelee, Urbana, Ill., secretary-treasurer.

Wednesday was devoted to sectional meeting of the Illinois-Indiana Division of the American Face Brick Association, the Illinois Paving Brick Manufacturers Association and the Chicago section of the American Ceramic Society.

## NEW POTTERY PLANT.

THE STANDARD MANUFACTURING CO., at Louisville, Ky., has completed plans for the erection of a pottery plant in connection with that industry for making bath tubs and plumbing supplies. The pottery plant is to occupy a building 75 by 200 feet and is to be devoted to the making of chin handles and various other fittings and parts required for the plumbing trade. It is figured that the new plant will cost approximately fifty thousand dollars and will constitute an important addition to their big bath tub and plumbers' supply plant.

## HUDSON RIVER BRICK SALES.

The Dow Service Daily Building reports say that common brick sales compare favorably with previous year's records so far. For example, taking the barge movement passing from the wholesale market to the dealer's hand, the figures show for January and the first seventeen days of February of 1921, sixty-eight barges, which compares favorably with normal years. This in view of the tightness of money for trade and building operations is taken to signify confidence in brick as a good item to buy.

Work and thrift makes a good team that needs hitching up for more active service right now.



Dry Pans  
Wet Pans  
Crushers  
Sewer Pipe  
and  
Tile Machinery

---

*Bulletins on Request*

STEVENS ON

The  
Stevenson Co.

General Offices and Works  
WELLSVILLE, OHIO

---

Western Sales and Engineering Office  
801-802 Monadnock Building  
CHICAGO, ILL.



## Why are these Beans burned on Top?

Dan O'Dowd was a typical son of the soil and had a craving for the wild country and baked beans. Somehow his devoted wife Mary Anne could never cook beans to suit his taste. As a matter of fact, they were usually burned on top.

Mary Anne's stove suffered from the same ailment as a great many Ceramic Kilns do. The heat was unevenly distributed, comparatively cool at the bottom and excessively hot at the top, due to radiation from many uninsulated surfaces.

Insulation of all the heated surfaces of Mrs. O'Dowd's kitchen stove or the Ceramic Kiln, would guarantee an even temperature throughout. For the Ceramist this would reduce under-burning by eliminating cool spots and in addition get more heat out of each unit of fuel by preventing the escape of from 60 to 70% of the heat which ordinarily radiates from the outer surfaces.



**CELITE PRODUCTS COMPANY**  
 NEW YORK, 11 BROADWAY CLEVELAND, GUARDIAN BLDG ST. LOUIS, 1532 OLIVE STREET  
 PHILADELPHIA, LIBERTY BLDG DETROIT, BOOK BUILDING LOS ANGELES, VAN NUYS BLDG  
 PITTSBURGH, OLIVER BLDG CHICAGO, MONADNOCK BLDG SAN FRANCISCO, MONADNOCK BLDG

*If you are interested in knowing how the insulation of your Ceramic Kilns with SIL-O-CEL will increase their efficiency, send for a copy of our bulletin D5-A.*

**SIL-O-CEL**  
 PREVENTS HEAT PENETRATION  
 TRADE MARK REGISTERED U.S. PATENT OFFICE



**HY-GRADE MANGANESE CO.**  
**WOODSTOCK, VA.**

Miners  
 and  
 Grinders

**Especially Prepared  
 for Brick Making**

**Sales Office: Charleston, W. Va.**

## THE KENTUCKY ANNUAL.

**T**HE ANNUAL MEETING of the Kentucky Clay Products Association was held at the Louisville Old Inn, Louisville, Ky., February 23rd.

President J. T. Howington was called away on business so Vice-President F. C. Klutey, of Henderson, presided at the meeting.

The forenoon session was devoted to a roll call and inquiry of those present as to trade conditions, costs, prices and whether or not they were operating, also what the building outlook is and so on.

The replies indicated that practically all the brick and other clay plants are shut down at the present time and the stock on hand is lighter than usual for this time of the year. So in the future business activity will depend and be governed largely by building operations and the demand. Opinions of this phase of the matter vary, some sections report building prospects good and others uncertainty.

Reports from the Louisville trade indicate that building prospects in Louisville are perhaps better than in most of the larger cities because there is some industrial growth which increases the housing need as well as makes a call for factory and business building.

All expressed the opinion that we should get down to solid ground with brick prices and seek to create the impression in the public mind that prices are on a solid basis because it is felt that this is essential to start the public to buying freely and building actively.

At 12:30 the first session proper adjourned to the dining room of the Old Inn where the members took lunch together and proceeded to get better acquainted with each other.

After lunch came the election of officers which resulted as follows:

### Officers Elected.

President, F. C. Klutey, Henderson, Ky.  
 Vice-President, A. H. Schnieder, Nicholasville.  
 Treasurer, T. Bishop, Louisville.  
 Secretary, J. Crow Taylor, Louisville.

### Directors.

Four new directors were elected, three for a three year period, and one to fill the unexpired term of T. Bishop, who had been elected treasurer, so that the directorate now stands as follows:

Term expires 1922:

W. H. Hall, Maysville.  
 H. C. Cramer, Lexington.  
 G. R. Erwin, Calhoun.

Term expires 1923:

J. H. Clark, Owensboro.  
 Geo. H. Dalton, Hopkinsville.  
 H. C. Kleymeyer, Evansville, Ind.

Term expires 1924:

T. H. Howington, Louisville.  
 M. J. Bannon, Louisville.  
 L. Ruby, Providence.

The following resolution as a memorial to the late Treasurer, Alfred Kleymeyer, was adopted:

"WHEREAS, there has been taken from our midst Alfred Kleymeyer, manager of the West Point Brick Co., and Treasurer of the Kentucky Clay Products Association, who died at Henderson, Ky., Monday, October 25th, and,

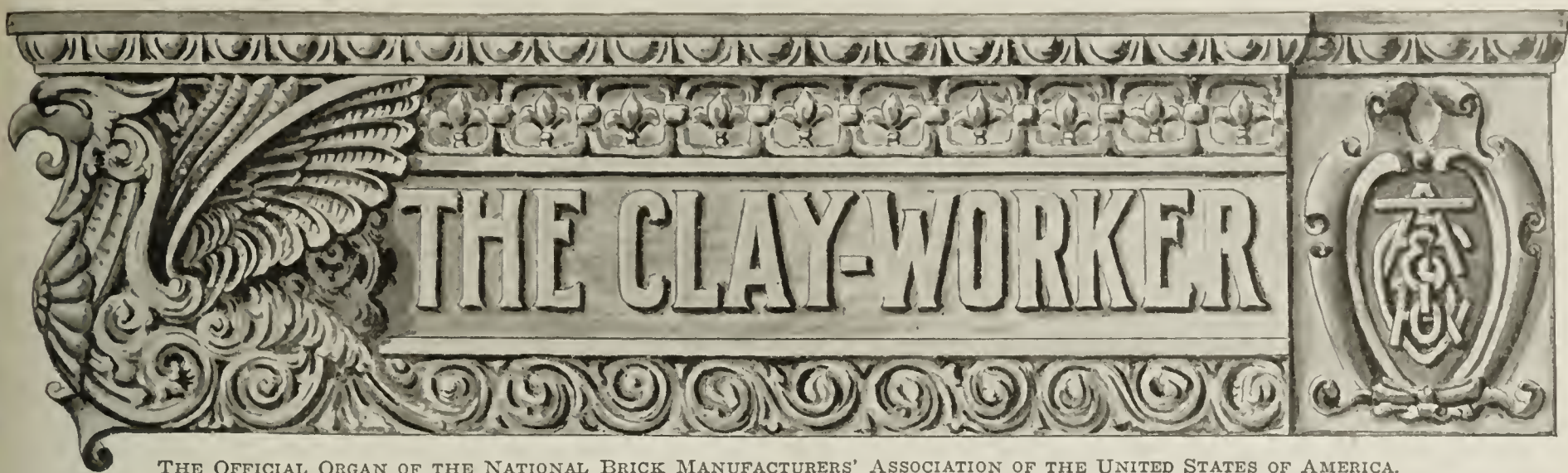
WHEREAS, in his death the association and the industry, as well as his family, suffers a distinct loss thereto, be it,

RESOLVED, That a record of his passing and our expression of sympathy and appreciation be made a part of the minutes of this meeting, and also that a copy of this resolution be sent to the nearest member of his family.

A motion was carried that the Secretary brief the proceedings of the meeting and send it together with a list of the clayworkers in Kentucky to all the membership of the state.

The opinion was expressed that it would perhaps be well for the clayworkers to hold a meeting semi-annually and perhaps some district meetings during the year. While there was no specific action to this, there is some intimation that another meeting will be held during state fair week in Louisville.





THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 75

INDIANAPOLIS, MARCH 25, 1921.

No. 4

# A LITTLE BUSINESS

## GUNNING TRIP:

Some Pertinent Suggestions in Regard to Business Boosting The Movies as a Media for Publicity. School Competitions, Newspaper Advertising and Other Ways of Putting Merits of Clay Products Before the Buying Public.

YOU see the old dog standing stiff on a covey of quail, you are so darn'd optimistic you think, well, I am going to get four on the rise and you try to pick out a couple of doubles and let go. You fog a few feathers and tell the old dog, dead bird, dead bird, the old dog snorts around for a while, then looks up at you as much as to say, "You old fool you didn't kill a thing.

At the end of the year you think you made a clean up but you find you have only fogged a few feathers out of what you thought was a big profit and the profit flew over the fence. It will take you another year to locate that covey again and it is a case in the brick business where you have to shoot them on the ground or get no birds. If you do kill a few birds you haven't enough to go around. It's a big drive for the churches, lodges, baseball club, Chamber of Commerce, Y. M. C. A., Y. W. C. A., Kings Daughters, Orphanage, Near East Relief, Reliefs-Beliefs and unbeliefs and then some more and you can not get by. It's a case of just sign your name on this line right here, we have you down for five hundred dollars and by the time they all get

through with you you haven't enough left to pay your income tax.

It's a case where we are simply kidding ourselves and trying to make believe we have made some money when we didn't make it. I think we had better swap dogs and guns and practice up a little for the next season's hunt or the lumber and cement people will get

all the birds. They already have most of the land posted and we have to hunt in the woods and swamps and take the cripples that happen to fly over there for cover. We should come out into the open and get some covey shots where the shooting is good. The cement people and the lumber people are doing it and it's time for the brick men to get into the game where there is some real sport.

In the past we have been burying our material in the ground and letting the lumber people build their advertise-

ment on top of it. We should in the future insist upon furnishing the entire building and not be content with foundation and chimneys only.

In the past it has been a case of one dollar per thousand maximum profit on brick and ten dollars mini-



Repelling an Attack of Dull Business.



mum profit per thousand on lumber. The brick people are entitled to the same profit on brick that the lumber people are on lumber. Five dollars per thousand profit on brick is small enough and unless the brick people do get a larger margin of profit in the future you are going to see thousands of brick plants go out of business.

I do not believe in profiteering but I do believe in a reasonable dividend at the end of the year. The common brick industry has been one of the poorest dividend paying industries for the amount of capital invested and material made that we have in this country today. The brickmakers are to blame for such conditions. There are brick being offered in this market today for several dollars per thousand less than they could actually be made for and as long as this thing goes on we will be working for nothing.

One or two firms get in bad financially and sell below cost to get some money to get by on, the legitimate manufacturer is then accused of profiteering because the other fellow is selling below cost of production. This demoralizes the whole market. They put it up to you that Mr. A is selling brick for \$15.00 and you are charging \$20.00 and you ought to make them just as cheap as Mr. A. They do not stop to think that Mr. A is broke and selling his brick far below cost because he has to do so. In a few months Mr. A is out of business and has no brick to offer at any price yet they say, well, Mr. A sold for so and so, and you can see how one cheap skate in the brick business can undermine the whole industry in that section.

With the same methods of manufacturing and burning and labor and fuel costing about the same you can rest assured that it is costing the other fellow just about the same to make his brick that it is costing you. When you find he is cutting the price below the profit line at your plant, you have a pretty good line on his business ability. You can then feel pretty sure that this fellow will be plowing cotton or raising peanuts next year.

Make a profit out of your plant or let the other fellow work for nothing.

#### Advertising Brick.

Advertising is the life of any business. We all know that to be a fact. Very few of us know how to advertise to get real results.

For local results the largely circulated and nationally circulated magazines will not do, for they have a very small circulation in any one community and the advertising rates are too high.

An "ad" stuck away in the back pages of the home daily or weekly goes by unnoticed, the busy people (and they are the ones you want to reach) do not take time to read advertisements. How are you going to make them read your "ads." One solution is the Moving Picture screen.

You have to read the "ads" on the movie screen or

shut your eyes to spite the advertiser. The slides are made very attractive. You can have them made from the very buildings you furnished the brick for. Beautiful brick homes in all the various colors of brick and tile with natural colors of all surroundings and the firm's name and appropriate reading matter on them for \$1.50 each.

In this section the best theatres charge \$7.50 per month to show the slides and they are read by about fifty thousand people monthly for the small sum of \$7.50. They are read by home builders, the very people you want to reach. By having a number of slides you can have them changed weekly and have a new home on the screen every week.

I am getting photos of about a dozen beautiful homes that I furnished the brick for and expect to have slides made and begin this form of advertising at once.

I would be glad to have the N. B. M. A. take this matter up and adopt this method of advertising for



Brick the Best Ammunition Against Fire Waste.

1921. The association could get up the slides and sell them to the brickmakers at a reasonable price and save them the trouble of having them made. You would be surprised to know the impression these slide "ads" make on the people. It is not long until your name is a by-word in the community. You advertise the Theo. A. Randall Brick Co., and it is only a short time until everybody in the community knows Theo. A. Randall is a brickmaker, they see the beautiful colored brick homes and they know he makes beautiful brick to build beautiful brick homes. This form of advertising will win thousands of people over to build brick homes. It's like stepping on a banana peel, you get quick results and that is what we all want right now. Some old pessimist said business had one foot in the grave and the other on a banana peel. If that is the case the movie "ad" will soon put him back with both feet on a solid brick foundation. Let's try it out in every movie house in America and see if we cannot get a hump on and build one million new BRICK homes in 1921.

H. L. JACOBS.



### A Boosting Local Campaign Needed.

Along the lines Mr. Jacobs has suggested in the preceding article much effective work can be done in local territories to create or increase sales for burned clay products. Through 'The Clay-Worker' we have in the past set forth many plans that could be used to good advantage without much expense. These plans have included local advertising campaigns through newspapers, build with brick signs and posters placed on jobs under construction, on delapidated buildings on trucks, wagons, telephone poles, fence corners, in fact, any place where the sign would be conspicuous and be sure to bring home forcibly its message; slides in moving picture houses; public school and high school competitions where a small prize or prizes would be awarded the scholar that would write the best short essay on the advantages of building with brick, etc., (the boys and girls would talk this over with their parents around the family fireside at night



Build With Brick—A Good Movie Slide.

and the teachers would be judges and the best essays published in local paper and thus it would be a live topic not only in the schools and at home but throughout the entire community); and many other suggestions of equal importance if taken up, carefully considered and carried to a point that would awaken the greatest interest. The time is ripe for steps along a general boosting campaign and we hope the manufacturers over the country will go to this with all the pep and vigor that is in them. If every community is treated in this matter by local concerns for their own personal good, what a tremendous boost it will be for the entire industry.

Several members of the N. B. M. A. in the past have made talks illustrated with slides or even moving picture films before commercial organizations, at churches, schools and any place where they could get the attention of those in the minds of whom they wanted to drive home the arguments which prove con-

clusively the many advantages of well burned clay products over other building and structural materials.

Slides to be used in moving picture houses can be purchased at a very small expense. We have some slides in our office that we will be glad to duplicate and send to you at cost. Next month we will illustrate some of these in 'The Clay-Worker'. In the meantime you should take some action in this matter of local boosting. Don't be content with the idea that you will get your share when the time is ripe. Go out and create a demand. If we all sit still waiting for prosperity to come our way it will surely be a long time in reaching the home plate.

We give below excerpts from an illustrated talk made before the Rotary Club of Indianapolis. Slides and moving pictures boosting burned clay products were used.

### An Illustrated Talk.

"Few of you, unless you have studied over the proposition, realize to what extent we are creatures of habit. We do the things that we grow accustomed to as we journey along life's way, but many times without sense or reason. This applies to building as well as to other mundane affairs. The people of this country have grown into the habit of building cheap frame structures. There was a reason for this originally, in that lumber being very cheap, such structures could be built at a very low cost, but these conditions no longer maintain. Today a frame structure costs approximately as much as the brick structure and it is nothing like as valuable, but we keep on building them through force of habit and the erroneous idea that brick is a costly material. The frame structure entails an annual expense of upkeep which is a burden, in comparison with first cost. The brick structure once completed is a source of safety and satisfaction. Not only is there no cost of maintenance, but it lessens the cost of fire insurance, and is a permanent structure, while the frame structure is a temporary structure, ultimately decay marks its finish. That is inevitable. The brick structure is practically everlasting or as nearly so as anything can be in this world. The average building brick is subjected to a heat of about 2000 degrees Fahr. in the burning process, and this is what gives it its indestructible character. If you build a home of brick you are building not only for yourself but for your children and your children's children.

### The Dreadful Fire Waste.

I have said we are creatures of habit. We are also a very careless people, the most recklessly disregardful of human property values of any people in the world. This is demonstrated by our tremendous National Fire loss. The figures run so large that they are well nigh incomprehensible, so I have illustrated this great tax and it is a tax, with a view or two which may impress you more forcibly than mere figures. Government



statistics show that our fire loss last year in the United States amounted to a per capita of \$3.00. The fire loss in Europe is a little more than one-third that amount. What is the reason? They build with brick.

If you add to this tremendous sum the cost of maintaining fire departments and the fire insurance paid you have a per capita tax of nearly \$6.00, perhaps more.

It has been figured that the buildings in this country consumed by fire each year, if placed on lots having a 65 foot frontage would line both sides of a road reaching from New York to Chicago and in making a journey over that thoroughfare one would pass every 1,000 feet a ruins from which an injured person had been taken and every three-fourths of a mile on this grue-

the best building material, and a little calculation and investigation will prove that the same is true from an economical viewpoint, that is you who are going to build homes and commercial structures will find when you get the real facts that a brick structure is really cheaper in the long run, I don't mean a lifetime, but only a period of from 5 to 10 years, according to local conditions.

Having unbounded faith in the intelligence of our people, I feel like predicting that the coming generations will live in brick homes and travel over brick streets and by so doing will add immeasurably to the joy of comfortable living.

It is hoped that the clay product manufacturers of this country will take advantage of the suggestions



Brick the Everlasting Material—Brick From an Old Building to Be Used in a Modern Structure.

some journey one would encounter the charred remains of a person who had been burned to death, for approximately 1,500 persons are killed in fires annually. A little calculation shows that if these destroyed buildings were placed on lots having a frontage of 160 feet they would line both sides of a thoroughfare reaching from New York to San Francisco. I have illustrated these facts with lantern slides in the hopes that you may be more impressed by the picture than you are by mere figures and tabulations.

#### How to Reduce the Fire Loss.

Now, how can we lessen this awful fire waste? It is a wanton waste of human life and property. The simplest means is to cease building with inflammable materials and Build with Brick. From the viewpoint of safety, it will generally be conceded that brick is

made and even though they may not use the moving picture film or make arrangement for set speeches, that at least, they use slides advertising their products and showing beautiful attractive brick homes and structures. This can be done at a very small expense.

#### Building Brick Indestructible.

Building Brick is the one structural material that is indestructible. The above illustration is proof of this and shows many thousands of brick taken from an old building which was torn down to make way for a modern structure. The brick was the one material that practically was not a total loss. These second hand brick have a market value, but a little less than new brick, probably considerably more than they were sold for originally. This picture would make a good slide to demonstrate the everlasting qualities of building brick.



## PUTTING THE PROOF IN FIREPROOFING.

HERE HAS just been issued a book of about four hundred pages containing a record of fire tests of building columns. It is an official record of tests that have been made by the Associated Factory Mutual Fire Insurance Companies, National Board of Fire Underwriters, and the Bureau of Standards, Department of Commerce, Washington. It is official record of work which has been under way for about three years now, and it is a volume which should be in the library of every man interested in the subject of fireproofing so that it may be at hand for reference.

It is not possible to give a comprehensive review of this work in detail in one single article, because it has an immense volume of technical data involved.

In wading through the book and some reviews of it in hand from the standpoint of the clayworker one finds some rather startling results. Hollow tile, which we have been in the habit of looking upon as the superior offering in clay products for fireproofing columns, makes a showing that is disappointing. On the other hand, common brick for incasing columns, especially when laid flat to get the full width, makes a splendid showing. In other words, the heavier body of burnt clay in the expanse of common brick seems to furnish better insulation so far as protecting metal columns from damage is concerned than the webbing an air space of hollow tile. This is the outstanding feature of the test results which strikes the eye of one in the clayworking industry.

A fairly comprehensive brief of it, together with incidents leading to the undertaking is given in a bulletin of the National Board of Fire Underwriters. The book in question is the result of years of planning and the expenditure of \$100,000 for the creating of apparatus, of extensive refinement and accuracy; two years given to preparing and collecting columns; eighteen months to making the tests, and two years to analyzing the data and drawing conclusions. This work has been done by the Bureau of Standards in connection with the Board of Fire Underwriters and the Associated Factory Mutual Fire Insurance Companies. The efforts have been confined to columns because columns are considered the most important element in the strength of a building, as they have the responsibility of sustaining all of the interior of big structures. Reviewing the history of this work and the previous efforts which lead up to it the bulletin of the National Board of Underwriters says:

"An important investigation of the subject was inaugurated cooperatively in 1896 by the Tariff Association of New York, the Architectural League of New York and the American Society of Mechanical Engineers. Floor and load-testing equipment, elaborate for that day, but crude as compared with the apparatus used in this last investigation, was erected, and a series of tests upon unprotected metal columns were first made. This was the pioneer effort in this field. The data obtained was of much value, but, unfortunately, lack of funds prevented completion of the program covering protected columns, and nothing in this direction was accomplished.

"In an effort to supply this deficiency, the New York Bureau of Buildings conducted several fire tests upon small reinforced concrete columns in connection with floor tests during the years 1903 to 1910. These tests were conducted by Ira H. Woolson, then on the staff of Columbia University, but now consulting engineer to the Committee on Construction of Buildings of the National Board of Fire Underwriters.

"These tests, while useful, failed of their full value because of the impossibility of applying sufficient load to represent working stress conditions on the columns. There was

no difficulty in securing proper heat, but adequate loading on columns was impractical. Dead loads of bagged sand or pig iron were used, and the difficulty of applying such loads is indicated by the cut on this page.

"At last the solution of the great problem was undertaken by the United States Bureau of Standards, the National Board of Fire Underwriters and the Associated Factory Mutual Fire Insurance Companies, working conjointly. Plans were worked out, during a period of years, for a series of tests so complete that questions concerning columns in fire-resistant construction might be finally and authoritatively answered. The Underwriters' Laboratories in Chicago seemed to be the one logical place for such a test, and construction work was there begun upon a testing furnace of unprecedented magnitude and power, for the purpose. It was arranged to supply the desired heat from multiple gas flames of great intensity and then to add the load by an enormous hydro-pneumatic ram.

"Simultaneously with the construction and standardization of this apparatus there began the work of collecting and preparing the columns for the test.

"This lasted from May, 1916, to May, 1917. Upon June, 1917, the tests themselves began, and they continued for eighteen months, but two years more were required for the study of the mass of the data obtained. Now at last the conclusions can be given to the public which has an interest in the results hardly second to that of the architects and engineers themselves.

"The first issue of the combined report of the investigation has been printed by the Underwriters' Laboratories. Later it will be published by the United States Bureau of Standards, and the Associated Factory Mutuals plan to issue the data in condensed form.

"The report was compiled by S. H. Ingberg, an engineer connected with the Bureau of Standards, who was a resident in Chicago throughout the years of the tests, and who designed much of the especially refined apparatus employed in the investigation. Mr. Ingberg was in direct charge of the test program, but the plan, scope and test operations were the result of the co-operative work of all the engineers of the different organizations, who were detailed for the purpose.

"First and last, 106 tests were made, 91 being fire tests alone and 15 being fire and water tests, and the extreme scientific character of the work and the painstaking attention to detail is amazingly evident on every page."

The same bulletin gives a tabulated record of fire resistant periods as shown by the tests and considerable technical details as to results. The outstanding features of this are that engineers consider columns withstanding the fire test for four hours as safe, since this represents a longer time than intensive heat is likely to be applied to any column in the process of a fire. The comment touching clay products says:

"It will be somewhat of a surprise to many engineers and architects to find that hollow tile protection for steel columns proved less stable than anticipated, the longest period of fire resistance being three hours in this class, even with unusual anchorage of the tile. Common brick laid flatwise, however, stood up well."

While this will come in the form of a surprise disappointment to some of the enthusiasts in the hollow tile branch of the business, it should on the other hand prove quite a cheering boost to the common brick manufacturers. Moreover we have faith in the fireproofing qualities of all properly prepared and laid up clay products, and desire to express the hope in this connection that whatever failure on the part of hollow tile to stand up as well as was hoped



for was due to the jointing and the method of laying up rather than to the material itself. Practically always when there is a weak spot in any structural work of brick or hollow tile it is the mortar joint which constitutes the element of weakness, and some improvement and refinement in methods of laying up and improvements in mortar joints should help materially in shortcomings of this kind.

The test schedule given furnishes an interesting study and gives an idea of what the matter contained in the book referred to goes into elaborate details of. The book contains the announcement that copies may be had for \$2.00 in paper cover, or \$2.50 in cloth cover, either from the Associated Factory Mutual Fire Insurance Companies, 31 Milk Street, Boston, or from the Underwriters' Laboratory, 207 E. Ohio Street, Chicago, Ill.

#### GOVERNMENT APPROVES USE OF BRICK IN NATIONAL ROAD-BUILDING PROGRAM.

**W**HAT MAY BE CONSIDERED a victory for the advocates of brick roads is the attitude of the government in adopting brick as one of the principal road-building materials for which the \$100,000,000 appropriation by Congress is to be used.

It is understood that the excellent results following the extensive government tests of brick as a road-making material, carried on for the past year at the governmental experimental station just across the Potomac River from Washington, demonstrated the desirability of brick for this purpose.

Already, although the provision for the road-building on the extensive scale passed Congress but a few weeks ago, about 400 miles of brick roads have been authorized. The proportion of the total of \$100,000,000 to be used in the next year for the national road-building work which is to be spent for brick roads is unlimited, and depends to a great extent upon the states themselves.

P. St. J. Wilson, chief engineer of the Bureau of Public Roads, Department of Agriculture, informs me that in the Federal aid operations up to this date, under the new law, plans, specifications and estimates have been approved by the Department of Agriculture for the construction of 376.66 miles of brick road. "Such construction," said Mr. Wilson "is approved by the department, when requested by the states, provided the design is satisfactory and the importance of the road and the requirements of the traffic warrant this type of construction."

One of the provisions of the new road-building law is that the respective states must meet 50% of the cost of the road construction, which means, in effect, that the amount to be spent in the work is \$200,000,000.

The following apportionment of the government's \$100,000,000 appropriation among the states will give an adequate idea of where and how the money is to be spent:

Alabama, \$2,104,883.51; Arizona, \$1,373,644.16; Arkansas, \$1,685,178.09; California, \$3,054,675.51; Colorado, \$1,755,759.17; Connecticut, \$613,349.43; Delaware, \$162,674.81; Florida, \$1,147,447.92; Georgia, \$2,697,150.96; Idaho, \$1,226,049.93; Illinois, \$4,365,067.91; Indiana, \$2,687,053.27; Iowa, \$2,881,326.74; Kansas, \$2,871,244.62; Kentucky, \$1,951,755.43; Louisiana, \$1,362,231.13; Maine, \$960,230.16; Maryland, \$866,998.61; Massachusetts, \$1,472,788.83; Michigan, \$2,891,667.97; Minnesota, \$2,842,089.33; Mississippi, \$1,807,557.17; Missouri, \$3,387,899.60; Montana, \$2,006,990.13; Nebraska, \$2,133,741.98; Nevada, \$1,276,344.43; New Hampshire, \$414,838.93; New Jersey, \$1,187,556.45; New Mexico, \$1,598,467.85; New York, \$4,971,893.11; North Carolina, \$2,279,053.80; North Dakota, \$1,536,277.80; Ohio, \$3,706,246.81; Oklahoma, \$2,302,478.33; Oregon, \$1,576,152.03; Pennsylvania, \$4,591,946.05; Rhode Island, \$233,256.87; South Carolina, \$1,436,019.04; South Dakota, \$1,515,779.44; Tennessee, \$2,261,913.90; Texas, \$5,861,598.46; Utah, \$1,129,575.66; Vermont, \$450,077.09; Virginia, \$1,977,673.83; Washington, \$1,444,627.79; West Virginia, \$1,060,152.77; Wisconsin, \$2,544,945.35; Wyoming, \$1,233,715.84.

MARKS.

## FIVE HUNDRED BRICK A DAY.

By Chas. F. Dingman.

**A** RECENT magazine article tells of a man who wanted to hire bricklayers but could only get them with the understanding that they would not lay over four hundred to five hundred brick per day.

Maybe it is true, but it's all new to me. We have been hiring bricklayers all over the eastern and southern states but we have yet to run against any union that fixed the number of brick we could expect a man to lay each day. Or at least, they didn't tell us that they had fixed any such amount.

There have been jobs on which we found it impossible to get even four hundred brick laid per day but that wasn't because of any agreement or understanding, usually it was because of the nature of the work.

Recently, probably as a result of some of the investigations that have been going on, the daily papers have been full of very definite statements as to how many brick are laid by each man per day now and how many would have been laid in pre-war days. It is also noticeable that the more remote the author's connection with actual bricklaying may be, the more definite and positive will his statements be.

Those of us who get our living by a rather intimate connection with the construction industry know that the number of brick which a man can or will lay depends upon a great many conditions, any one of which may seriously affect the result.

For instance, a man might be building small piers and necessarily spend a third of his time selecting the brick, plumbing the corners and straightening his work. If the dimensions of the piers were such that brick had to be cut in order to work out right, then he might even spend two-thirds of his time in performing other necessary operations than the actual laying of brick. Under such circumstances three hundred fifty brick might be a very good day's work.

Even such an apparently minor consideration as the composition of the mortar has a decided effect in determining the day's work. If cement mortar is used, an over-rich or over-lean mixture will greatly reduce the amount of work done.

A mixture of just the right texture will enable the bricklayer to greatly increase his production and the addition of lime to the mortar will further increase the output. Using ordinary lime mortar instead of cement mortar results in a maximum number of brick laid.

Then the quality of the brick themselves has a lot to do with the results. Brick which are uniform in size, well formed with straight sides and square corners, are much more easily laid than those which are warped, twisted and uneven.

During the past summer we had one job which had fairly thick walls but which was very much cut up with window openings, our poorest day's work was five hundred brick per man and we ran up to twelve hundred brick per man.

The thickness of the walls has a most important bearing upon the day's work. Only the brick on the outside of the wall have to be laid to line, with uniform jointing maintained.

Thus, disregarding heading courses, a 12 inch wall has two-thirds of its brick on the outside, a 16 inch wall has only one-half on the outside and so on. The thicker the wall is built, the smaller is the proportion of outside brick.

Among the other causes that affect a bricklayer's production are the wetness or dryness of the brick, condition of weather, temperature, services rendered by tender, etc, etc.

We, in the building business, are beginning to feel that



some of those definite statements that are being circulated are not based upon any study of facts beyond a possible report upon the performance on some one job. But such statements do have a tendency to make people believe that we builders are not influencing our employes to produce the best possible results.

#### OMAHA TO HOLD FIRST BUILDING SHOW.

By James W. Hanbery.

To stimulate the building industry in the Trans-Missouri country and especially Omaha and the surrounding territory this season, the first building exhibition in the history of Omaha, Neb., will be held during the latter part of April. Robert C. Mitchell, manager of the Reliance Brick Company of this city, and Charles Franke, manager of the Omaha Auditorium, are planning the exhibition.

The exhibition will be staged in the Municipal Auditorium, a large one-story brick structure covering an area of one block. Persons interested in the sale of building materials and business establishments selling household and office equipment and supplies have been invited to display their products at this show. At this time a considerable space in the building has been reserved by local and foreign business concerns.

The apathy in the building industry in this section of the country and the desire of local real estate men and merchants to promote the building program led the managers of the exhibition to plan the show. The prospects for the exhibit at this time are so bright that the Chamber of Commerce of this city and a group of business men interested in house building to the extent of an annual expenditure of \$20,000,000 have endorsed the scheme.

The committee representing this expenditure of \$20,000,000 annually in real estate organized some time ago to fathom the situation. At this time they have secured a reduction in the price of building materials to the extent of 20 per cent. In many instances they have brought down the price of materials as much as 30 per cent.

Labor, an important element in the house-building program, was represented at the meeting. Although not openly agreeing to make a reduction in their wage scale in order to rejuvenate this important building campaign, they have tacitly consented to reduce their wages if the material men will do likewise with their products. Another meeting between the business men and the trade unions is scheduled for a later date.

Despite the fact that there is not a shortage in money in this territory, the building program was not resumed this year as was expected. Few permits for office, business and residence structures have been issued and a general hesitancy was everywhere evident. The explanation was that the people were waiting for the final reduction in building prices to come.

So many statements had been published in the newspapers to the effect that the price of building materials would be reduced, the prospective builders expected such a situation and absolutely refused to give orders for the construction of their homes.

The building exhibition is expected to solve the situation. Here everything needed from the first brick to be placed in the foundation wall to the last word in house fixtures and equipment will be displayed in booths leased by the business concerns. Representatives of the various establishments interested will be on hand at all hours of the day to explain their products and submit the prices to the inquiring public.

It is expected people will flock to this exhibition by the thousands. Husband and wife will figure up their bank bal-

ance, price materials entering into the construction of their home, consult architects and contractors who will have offices in the building, and let the contract for their future abode.

Mr. Mitchell took an active part in an exhibition similar in nature to this one in Cleveland, O.; where 250,000 gate receipts were issued. This show was scheduled to last seven days, but the huge attendance forced the management to extend the time to ten days.

If the building program in this area of the United States can be resumed this year, the building exhibition is expected to be the solution.

#### ANENT ADEQUATE GOVERNMENT APPROPRIATION FOR RESEARCH WORK FOR CLAY INDUSTRY.

Editor The Clay-Worker:

In connection with the proposal on the part of the various Heavy Clay Products Industries, to undertake and support research endeavor, I think it entirely proper to call attention to what is unquestionably within our right and prerogative, namely to secure at the hands of Congress a fair share of appropriation which shall be devoted exclusively to research which will assist in the economic production of our various wares, for they bear an economic interest to the general welfare that cannot be disputed.

Economic production, therefore, is of universal benefit to the tax payers of the country. But we do not exercise our political strength as we should. A definite undertaking to secure proper appropriations in Congress to solve some of our economic questions through the Bureau of Standards ought to be undertaken. When we read that the farmers have just secured appropriations covering these items, farm economics \$414,830, an increase over that obtained for last year of \$39,440; for the animal industry \$6,070,576, an increase of \$593,420; for plant industry \$3,147,770; for the maintenance and protection of our national forests \$300,000 and nothing at all so far as I know, in the interest of the clay industry, it would seem that we have been asleep at the switch in so far as our political influence goes.

I therefore suggest that it would be timely to properly organize for the purpose of laying before the proper committees in Congress, the national necessity and advantage to the people of the United States for an adequate appropriation for research work for the purpose of developing clay products in the most economical way. It is hoped if it has not already done so, that the executive committee of the Joint Clay Products Research Committee will give this phase of the situation thorough consideration as soon as it is organized so that no proper government assistance will be lost through lack of organized effort and cooperation. W. P. BLAIR.

#### NEW OHIO BRICK PLANT.

D. G. Moomaw, president of the Exchange Bank at Stonecreek, by his purchase of the holdings of five directors of the Stonecreek Brick Company, Stonecreek, Ohio, becomes principal owner of this concern, which is rapidly being developed into one of the clay industries in Tuscarawas county. Others on the board are W. C. Morrison, Cambridge, O., and Fred Strine of New Philadelphia.

It is believed that Joseph and George Moomaw, brothers of D. G. Moomaw and partners of C. V. Shepfer in a clay plant at Sugar Creek, will be associated with him in ownership of the Stonecreek plant. Completion of the new plant is being rushed.

The capacity of the plant when finished will be 50,000 bricks a day. It is planned to manufacture tile, paving block as well as brick.



## OF INTEREST TO DRAIN TILE MANUFACTURERS



### ROAD DRAINAGE.

Editor The Clay-Worker:

I was glad to get your good letter of February twenty-first, but would say that my talk on road drainage at Des Moines was not typewritten and consequently I have no copy of the manuscript which I could send you.

The principal features of my talk were as follows:

(1) The road drainage problem is receiving a great deal of attention from highway engineers at the present time and is recognized as of fundamental importance in highway construction. I believe that it is quite possible that two thousand miles of road tile may be contracted for in Iowa during the season of 1921, and I believe further that ultimately 100,000 miles of tile may be used in the improvement of our road system.

Most of this tile will be six inches in diameter and probably none larger than twelve inches.

There are many problems in the theory of movement of capillary moisture and drainage water through soil and to tile in the case of road drainage which are yet unsolved, and these problems are essentially different from the corresponding problems in land drainage. A good deal of scientific research on these problems is urgently needed at once.

(2) The Iowa State Highway Commission is applying the Standard Specifications for Drain Tile of the American Society for Testing Materials to all road drain tile used on the primary road system. The Highway Commission tests samples of all the tile for strength and usually for absorption, and applies the freezing and thawing tests when the results of the absorption test indicate the necessity. For convenience in making tests of the tile some portable testing outfits have been provided for work in the field, which are mounted on Ford trucks.

It is believed that this practice of making actual tests of tile will spread to the highway commissions of other states very rapidly. Manufacturers of drain tile should therefore familiarize themselves with the Standard Specifications for Drain Tile of the American Society for Testing Materials. The application of testing and inspection to road drain tile in Iowa is resulting in securing a much better product than before.

(3) I distributed copies of the specifications for drain tile of the State Highway Commission and discussed their features with those present at the meeting. Manufacturers urged

the adoption of a modification of the specifications by making the point of delivery the nearest railway station instead of along the ditch, so that manufacturers could bid direct without having to hunt up local truck owners to make delivery. This suggested modification has been transmitted by me to the Highway Commission for consideration.

(4) I also distributed some copies of the Standard Specifications for Drain Tile of the American Society for Testing Materials and discussed their futures with the convention. These specifications should be adopted as standard in all states.

Yours very truly,

Iowa State College, Ames, Iowa. ANSON MARSTON.

### THE FUTURE OF FARM DRAINAGE IN IOWA.

The importance of Iowa as an agricultural state is in a large measure due to the amount of drain tile used on the farm lands. One-half of the state's agricultural land would be valueless and useless except as a breeding ground for frogs and mosquitos if drain tile had not dried the soil sufficiently to make it tillable.

If undrained about ten to twelve million acres now producing and being farmed would constitute a great area of unproductive waste. Farm drainage, is not half completed as yet, in fact only about twenty-five per cent of the farm lands have been efficiently drained. Wherever drain systems have been installed with proper regard for soil conditions, and properly spaced, the results have been astounding. The returns on the original investment are so great that in many cases the drainage has paid for itself in the added returns of a single season's crop.

Farms with a system of drainage have more than a month longer growing season than undrained farms. It is possible for the farmer to begin earlier in the spring and to work later at the end of the season. Under average conditions it has been found that drains spaced a hundred feet apart at a depth of four feet produce excellent results.

Ames, Ia.

PROF. W. J. SCHLICK.

### OUTLETS TO DRAINS.

It is here that the work should begin. Secure first an outlet which will give the water a free flow away from the mouth of the drain, and also provide for the necessary fall of the drain to be dug. It is better that water should not stand at the mouth of the drain. The outlet should be pro-



tected against the tramping of stock. They are very fond of drain water and will drink it in preference to running branch water, but in tramping at the outlet they are likely to injure the tile and make a mud hole that will prevent the water from flowing away freely. If boulders are to be had it is best to rip-rap the banks or raise of ground about the outlet, placing the boulders firmly in the ground beside each other on the level portion about the mouth of the drain and one above the other on sloping ground, allowing sufficient slant to keep them from caving in. Some set the outlet in solid masonry, others in brick work which is more expense than many wish to incur. But the importance of securing the outlet well should not be overlooked. It is not enough that the pressure of the water forces it out, but it should be a free flow.

The outlet of the drain well secured will be a place of frequent resort by the owner that prides in the effectiveness of his work, and it will be well pleasing to his sight to see the water gushing forth at the mouth of the drain. Whereas, if it is only an unsightly mud-hole he will likely pass by on the other side and not so much as wish to see it. We should also place a tile-gate in the drain at the mouth to keep out the vermin.

A man's estimation of the importance of farm drainage can be pretty well determined by the outlets which he provides for his drains.

#### DIGGING PLASTIC CLAYS.

THE METHOD OF BLASTING ordinary plastic clays for making tile and common brick will depend on the height of the face, the method of digging, the hardness of the clay and the nature of the floor.

In developing this type of blasting, several unexpected results have been obtained. Some pits employing hand digging were having much trouble in mixing the top and bottom strata and were losing trade thereby. Blasting down the face resulted not only in decreasing the cost of digging, but gave a better mixture of the clay than had been possible by the former methods.

In other pits loose boulders seriously retarded the work. Blasting not only loosened the hard clay, but materially assisted in getting out the boulders, and sending the clay to the plant in better shape.

Much good can be done in tempering some clays by blasting the impacted pits, when in a dry condition, well in advance of the need. This permits the absorption of rain, lets the frost in deeper, and begins the processes of tempering that are later finished in the mixer or pug.

Clay is often found over quicksand or other soft ground where difficulty is experienced in the upkeep of tracks for cars or of roads for carts. Digging from above will largely overcome these troubles, as the cars or carts can then be handled on the surface instead of in the bottom of the pit. This substitution is made possible by drag-line or similar excavating rigs that work from above. When the clay is wet or soft, there is no difficulty in filling the buckets and working to full capacity. When the ground is hardened by drying out or freezing, it should be loosened by blasting. Practical pit trials have proved the advantages of this method of digging.

Even where the bottom is solid and is free from standing water this method is proving satisfactory. Where the drainage conditions are bad it is to be highly recommended.

When frozen or dried hard, this bank should be shot down by blasts so as to reduce the cost of shoveling. If blasted, a drag-line or steam shovel could be used to replace the hand labor.

Some high-grade clays contain hard pebbles and must be spaced thin to expose the pebbles so that they can be picked out by hand. When this is necessary, blasting should not be practiced unless the clay is dry or frozen and the cut cannot be begun.

To start the work put down two or more shallow holes

spaced 30 or 40 inches apart, load each with from one to two cartridges of 30 to 60 per cent. ammonia dynamite, primed electrically, and fire all together. This will open up a short trench and expose ample room for the shovelers.

#### VERY SUCCESSFUL MEETING OF IOWA CLAYWORKERS.

THE Iowa Clay Products Manufacturers' Association held a most interesting convention attended by over fifty clayworkers at Des Moines, Iowa, Thursday and Friday, February 24th and 25th.

Grover Galvin, of the Rockford Brick & Tile Co., presided at the first meeting. After a few brief remarks he introduced Dean Anson Marston who made an informal talk on the subject of Road Drainage. The main points in the address are published in the Drainage Department of this issue on page 352.

Following this splendid talk there were discussions on same which led into a general discussion on prospective market conditions. These were optimistic in spirit, each speaker asserting that in his belief an era of construction that will exceed all expectations was just in the offing.

The afternoon session consisted of the reading and discussion of four papers, and short talks by E. R. Sturtevant, secretary of the Hollow Building Tile Association, and H. A. Lung, commissioner and acting secretary of the National Clay Products Industries Association. Mr. Sturtevant told of the plans under consideration for promoting research work in the clay products industry, while Mr. Lung spoke on the open shop and what his association is doing in that connection.

The four papers read were as follows:

"The Future of Farm Drainage in Iowa," by Prof. W. J. Schlick, Ames; "The Importance of Clay Storage," by A. S. Platt, Van Meter; "Working Iowa Surface Clay," by Harry Tramp, Creston; "Experiences with the Radiated Heat Dryer," by T. J. Neiswanger, Oskaloosa, and L. E. McCorkle, De Soto.

An informal dinner was enjoyed by about fifty delegates Thursday evening.

Friday morning the delegates were taken by automobile on an inspection tour through the plants of the Flint River Brick Co., Des Moines Clay Co., and the Capital Clay Co.

Late Friday morning the work of the convention was taken up. Interesting talks were made by R. W. Steere, Cleveland, Ohio, and A. J. Whittemore, Sheffield, Iowa, on the tunnel kiln, while H. R. Straight, Adel, Iowa, spoke on Labor Saving Devices. Mr. Steer's talk was on the American Dressler Tunnel Kiln. Mr. Whittemore described the vertical kiln in operation at the Smith Brick & Tile Co.'s plant at Sheffield, Iowa.

The last session was held Friday afternoon and consisted of addresses by Ned Pearson, Maxwell, Iowa, an architect and landscape artist on "The Use of Hollow Tile for Farm Buildings," W. J. Goodwin, Des Moines, Iowa, "Situation in General," W. H. Brecht, Des Moines, Iowa, "The Modern Paving Brick Plant Marketing Its Product," and J. D. Ramsey, of Bay City Dredge Works, Bay City, Mich., on "The Clay Excavator in Small Capacity Plants."

The question of freight rates was carefully considered. Rates have increased 100 and 115%. It was decided to take concerted action in an endeavor to secure a reduction from the Inter State Commerce Commission. Mr. Olsen, a man of wide experience in rail rate cases, has been retained as attorney to fight the rates and in order to create the proper fund for this work it was decided to assess each manufacturer \$20 per kiln. They hope to secure a reduction of 40% from the Commission.

Mr. R. W. Tuller of the Reliance Brick Co., Des Moines, Iowa, told of a new material called "Haydite," a burned clay aggregate for concrete.

The election of officers resulted as follows: Grover H. Galvin, Rockford, president; H. I. Moore, Ft. Dodge, vice-president; C. B. Platt, Van Meter, secretary.

We publish in other parts of this issue the papers read by A. S. Platt and T. J. Neiswanger, also excerpts from the talk by Dean Anson Marston. Other papers will be published in subsequent issues.



## MY EXPERIENCES WITH A RADIATED HEAT DRYER.\*

T. J. Neiswanger, Oskaloosa, Iowa.

Mr. President and Gentlemen of the Convention:

I have been asked to talk on my experiences with a radiated heat dryer. Making a talk is out of my line, so I have written a few remarks and while they may not all have direct bearing on the subject, I trust they will be of interest to some of you.

As we have installed a dryer of this type on our plant at Oskaloosa, after having used one at our Harvey plant for the past five years, you may know our experiences have been satisfactory.

When I joined the great family of clayworkers, back in 1904, our first dryer was the old type where we used a truck to convey the wares from the machine to open sheds where we waited for nature to dry it. You men who have used this process, and I believe most of the older manufacturers have had a taste of it, know we often waited a long time.

I did not use this process long, for it seemed to me I was side-tracked watching the world go by. So we took one step forward and installed a hot floor, where we turned the exhaust steam into a system of drain tile and pipes laid in a cement floor, but we still used our trucks and wheel barrows. While this was a great improvement I still felt we were not keeping up with the procession, so we next installed our first real dryer, with tracks and cars, using exhaust steam during the day and live steam at night. We found this dryer quite efficient in drying, but very expensive to operate.

About five years ago we discarded the steam dryer and installed our first Radiated Heat Dryer, and I am pleased to say we found it all we had expected, efficient, economical, and simple to operate.

We have made a great improvement in the past two years on this dryer by discarding the horizontal grates, and installing the Slater Grateless Firebox. This is the same firebox a great many of you are now using on your kilns. It enables us to use the lowest grade of Iowa slack coal and for the heat required they need very little attention.

We had expected to use a waste heat dryer at our Oskaloosa plant when we rebuilt it a year ago, as the underground tunnels were already in. But after conferring with several users of waste heat dryers and comparing results with those obtained at our Harvey plant, we installed a twelve track Justice Radiated Heat Dryer, in a modern fire-proof structure with the grateless fireboxes and we believe we have a real dryer, as our costs for drying have checked up about 9 cents per ton.

We are convinced this is not only cheaper to operate than the average waste heat dryer, but we have no dummies to fire when the hot kilns are not available, no dirty, sooty ware to handle, no cars eaten to pieces by the gases, and no fan troubles.

We have perfect control of these dryers and can dry any clay successfully that will stand artificial heat drying.

I am aware of the fact the popular idea is to save the waste heat by using it to dry your ware, but when I consult the electrical engineer and find that 50 per cent. of the current consumed on the average electrically equipped plant is used in saving this heat we find it a losing proposition.

I will admit this so-called waste heat is the great waste on our modern clay plant today, but I am convinced we must develop a way for using it that will really make a saving.

\*Read before the annual convention of the Iowa Clay Products Manufacturers' Association at Des Moines, February 24, 1921.

The great success of modern business depends upon its learning how to utilize waste.

Some years ago a man noticed grease and scum floating down a creek from the Chicago stock yards. He set up a soap factory and made a fortune on this refuse. Then the packers learned how to use their own waste, and now a large per cent. of their profits come from by-products. I would also call your attention to the by-products of petroleum. Out of what was once the waste incurred in producing kerosene and other oils, they now make all manner of perfumes, dyes and medicines.

If we will compare our present inefficient methods with the efficient methods employed in the production of steel I think we will find ourselves ranking about where I was in the clay game when I installed my hot floor dryer.

Coming a little nearer home, compare with our modern competitor, the cement industry. The modern cement mill has reached a point in efficiency in the production of cement, where they can produce it at a cost that would sure make the clay man put up a great talk on quality to stay in the field, as we could not stay on a competitive basis with our



T. J. Neiswanger, Oskaloosa, Iowa.

present cost of production. When cement lacks for a market may we not expect them to be real competitors?

The same problems that confronted these industries only a few years ago now confront us as manufacturers of clay products, and I firmly believe our possibilities for development are even greater, and I predict the clay plant that would survive and be successful in the next decade must wake up to more efficient methods, and pay more attention to lowering the cost of production, than they do to high selling prices.

Our by-products may not be soap, dyes and medicines, but we can reduce our waste, make a better quality of wares and lower our production costs. I do not want to pose as a dreamer, but I do have visions of a modern clay plant, where our methods are not only better and more efficient, but much more simple. Where the handling of our wares is reduced to the minimum, and where our waste heat is all utilized in a continuous process that is practical and as near as possible 100 per cent. efficient. This may seem foolish to you, but men, I feel it is not only possible, but probable in the not far distant future.

The above accomplished I may alter my views on the radiated heat dryer, but for the present on the average plant I feel it is best. I do not think many, if any of us, have



given any serious thought along these lines, but I am safe in predicting the time is at hand to get busy.

Along this line it may be news to some of you to know our several national organizations have a committee or committees on plant operation that have already started this work under the able direction of the clayworkers' old friend, Dr. Albert V. Bleininger, who will have the assistance of a committee of technical men. They will also have the co-operation and help of the United States Bureau of Mines, and the United States Bureau of Standards.

The first subject to be treated will be burning, for as Dr. Bleininger states, it is sure a burning question.

This work has been financed by the several national organizations and I am convinced we are safe in expecting results that will revolutionize the industry.

### OIL-SHALE.

**M**R. M. J. GALPIN, Bureau of Mines, in a paper in the Chemical and Metallurgical Engineering Journal, September 20, 1920, has the following to say about oil-shale.

"We are told of enormous supplies of this (oil-shale) material within the borders of the United States, of the plants to treat shale that are operating, or under construction, or about to be constructed, of the companies organized to produce and refine oil and other products from oil-shale, and certainty of the huge profits to be made on small investments in oil-shale operations. Supplementing these articles, the country has been well covered with oil-shale company promotion literature, commonly of a still more optimistic and misleading nature. Nearly 150 companies have been organized in connection with oil-shale, many of which, unfortunately, are purely stock promotion concerns. Some are actually engaged in experimental work of a sort, and a very few are actually conducting well-planned and organized investigational and research work."

This warning in the opening paragraph of Mr. Galpin's paper should serve to keep clayworkers from investing their shale earned dollars in wild cat shale-oil enterprises.

Oil has been distilled from shale for the past sixty years and we understand that some of the Scotch pits are over 2,000 feet deep. Shale-oil is not a new project in the United States. Prior to the first oil well in Pennsylvania where the first well was drilled, a rock oil company was operating in Ohio, but when the oil well "came in" the rock oil business went out.

There are oil shales in every state where shales are found, but some are much richer in oil than others. Some Ohio shale is so rich in spots that the oil has been won in small quantities in shallow shafts and tunnels by simply collecting the oil which oozes from the shale walls.

Undoubtedly the shale oil will in time become an important factor in our business life, but the time is not yet.

We will soon reach the peak of well production and the decline in output will begin, with the consumption mounting higher. Then will come in the product from exploitations in foreign fields which far-seeing companies are now undertaking. When imports no longer supply our demand, then, perhaps, we will resort to the unlimited shale supply. Meanwhile the investigation and development of processes will go on and should be encouraged in every way possible.

The operation on a large and profitable scale will only begin when the price of oil permanently has reached a level which will justify distillation of shales.

Dr. Edward Orton, former State Geologist of Ohio, in 1888, said, relative to the amount of oil in Ohio shales, "The total amount per square mile (of shale) passes far beyond the limits of clear conception."

The time may come, who knows, when the brickmaker will run the bricks into water-smoking and distillation muffled tunnels, collect the oil distillate and volatile gases and pass the latter forward to the combustion furnaces. In doing this he overcomes his present trouble in burning carbonaceous shale which he now frequently experiences, since the carbon remaining in the bricks after they leave the distillation zone, is slow burning coke which will be useful in burning the bricks without over-burning as now happens with some shales. From the distillation tunnel the bricks are passed forward into the burning compartments where they are burned by the waste gases, the waste heat collected from the cooling bricks, and the fixed carbon in the bricks. Instead of buying fuel to burn the bricks the clayworker will burn them with waste gases and waste carbon, and realize a profit from the distillate. We already have kilns of this type and the process only needs a get-rich-quick Wallingford.

Joking aside, this is very much the retort process. The shale is dumped into vertical retorts, the oil distilled in the upper part at temperatures around 900 degrees Fahr., then in a lower zone the carbon remaining in the shale is burned to generate heat to keep the operation continuous. Steam is introduced into the cooling shale to collect the waste heat and to develop water-gas in touch with any carbon in the shale. An oil shale rich in fixed carbon requires no other fuel to keep the operation continuous.

At the present time, the chief interest of the clayworker is in the possibility of the waste product, and we can give him little encouragement. The distillation temperature is around 900 degrees Fahr., at which temperature clay dissociates, the combined water is driven off, and the material has permanently lost its plasticity. In the hot zone of the retort it is said that temperatures of 1500 to 1600 degrees Fahr. are attained, and the resulting product would only be soft burned. The waste from the retorts is valueless for manufacture into clay wares. The only possibility will be the production of road material, ballast, concrete aggregate, etc., provided the heat in the final zone can be carried high enough to produce a hard product. The problem of getting this hard product without sintering the mass to such a degree that it cannot be gotten out of the retort, is up to the engineers of the shale oil process.

CAREY P. ELLIS.

### A NEW POTTERY AT TRENTON.

The Star Porcelain Company, of Trenton, N. J., has just completed plans for the erection of a two-story re-inforced brick and steel building to adjoin their old plant on Muirhead Avenue, that city. The company manufactures electrical porcelain specialties. The cost of the new erection will be in the neighborhood of \$7,000.

### SOME FIRE BRICK HISTORY.

A while back there was given in the Laclede Christy Bulletin a brief history of the refractory industries in the United States in which it seems the first fire brick was made in New Jersey in 1812. It gradually grew and spread out over the country getting as far as St. Louis in 1842 and also in 1844 the Laclede Christy Co. was established in St. Louis.

The quantity of fire brick production at that time was limited because we had not developed our metal working industries to any great extent, and even a generation ago the total production of the refractory industries in the United States did not exceed four hundred thousand a year. Now the average production runs over a hundred million, which is illustrative of the measure of development of metal working, glass making, and the many other industries requiring fire brick and refractory products.



## THE TRADE QUIZ BOX.

*Many readers of The Clay-Worker are wont to ask the editor for information on various matters pertaining to the brick and tile business. Usually such questions are answered by letter on the theory that the party asking the question is the only one particularly concerned, but many times the queries are of a general character and cover points in the trade in which the general reader may be interested, so we again inaugurate a Trade Quiz Box. Under this head, questions and answers will be given and any reader who can give further particulars in response to any particular query, or desires information on any phase of the business, is invited to make use of this department.*

### BURNING BRICK IN DOWN DRAFT KILNS.

**QUESTION:** We are burning fire brick of soft mud and flint clays in round down draft kilns, with open bottoms, and are having trouble in burning the bottom of the kiln without overburning the top. Can you give us any suggestions that will help us out?

**Answer:** Our correspondent's kiln trouble in burning fire bricks in a down draft kiln is probably due to the open bottom and perhaps to improper firing and lack of dampering during the later stages of the burning.

### WHICH IS CHEAPEST SYSTEM OF MAKING BRICK?

**QUESTION:** Which system of manufacturing brick is the cheapest, soft mud, plastic or dry press? I have had experience only with the soft mud, using a Martin machine. I think I can get clay suitable for any of the above systems. Again, is it practical to make building tile and common brick in the same plant with the same machine? This advice is for my own information, and not to be used to the detriment of anyone. I am the only person in our proposed company who has had any experience, but I need more.

**Answer:** It all depends on local conditions. It is pretty generally conceded that all things being equal, and large capacity being desired, the wire-cut brick can be produced the cheapest, but for limited capacity, either the soft mud or dry press may be just as economical. With unskilled labor for manufacturing common building brick, the soft mud process is very economical. Of course, in many sections the clay is better suited to that process. Where building brick are being made by the wire-cut process it is feasible to make hollow tile at the same plant. In fact, this is being done in many places throughout the country.

### WATER-STRUCK BRICK.

**QUESTION:** Our market demands a water-struck brick, which we have made for many years. Do you know of any machine which would enable us to increase the output?

**Answer:** Do not know of any machine which will increase the output of water-struck brick other than the soft mud machine, which we presume you are using. If you are molding by hand, then you can increase your capacity by using a soft mud brick machine. Do not know whether there would be any difficulty in making a water-struck brick on the soft mud machine, but can understand how there would be. The automatic striking and dumping machine will give them any desired capacity within reason. I wonder why any market should require a water-struck brick in preference to a sand

mold brick. Both are soft mud and the sand mold has a better face effect than the water-struck product in my opinion. The automatic machines are working successfully on sand mold brick in outputs exceeding 50,000 brick per day, and with greatly reduced labor over the ordinary brickyard operation.

CAREY P. ELLIS.

### REMEDY FOR SMOKE NUISANCE.

**QUESTION:** We are manufacturing a common building brick, burning in square and round down draft kilns, using pine wood as fuel. This causes a large volume of smoke to lay over the neighborhood on calm days, and it has come to us that certain residents are intending to file a protest against our plant on the grounds that it is a nuisance to the community. Do you know of any instance where a brick plant was required to do away with smoke from the kilns, being condemned as a nuisance to the community? What method or system is used to eliminate the smoke trouble? In the case of blast furnaces in large cities, such as Pittsburgh, what method is used to do away with the smoke problem that is sure to confront such industries?

**Answer:** A number of brick manufacturers have had to contend with this very problem, and we would be glad to have any of them write for the benefit of the manufacturer making this query. Each individual case is a separate problem. In a locality where the factory is of less value than the land, one usually has to abate the nuisance or abandon the factory.

In steel making districts the factories are of such great value and so important to the community that the smoke trouble is accepted as a necessary evil and a pall of smoke hangs over such districts.

In copper districts where the sulphur gas had denuded the surrounding country of vegetation, the trouble has been reduced by very high stacks or by collecting and washing the gas to free it from sulphur.

Wood smoke contains no sulphur and it is a question whether a court would hold that it must be abated.

The solution of the problem for a brick factory would be a continuous kiln.

### PERCENTAGE OF CLAY REQUIRED IN A BRICK.

**QUESTION:** What is the smallest possible per cent of clay which combined with sand or gravel will hold together and stand burning?

**Answer:** The smallest quantity of clay to bind sand or gravel depends upon the clay and upon the sand. Some clays are much more plastic, much finer grained, much stronger in their binding qualities, than others. In testing bond clays in their transverse strength when made into bars, the clay is first mixed with 50 per cent sand, then dried and broken. There is a wide difference in the results from different clays. Some sands, too, are more easily bonded than others and require less clay.

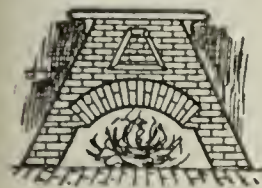
The writer does not know the minimum per cents under the varying conditions, nor would the answer be complete without first defining the process. Absolutely pure sand can be made into bricks by the dry press process, and stand up in the kiln. Witness—silica bricks and sand lime bricks, which, however, contain from 2 to 5 per cent or more of lime, but this is scarcely a binder in the wet state. Bricks made of all flint clay which is not a plastic material are possible by the stiff mud process. It may be mentioned that silica bricks were at one time made of ground ganister which is around 98 per cent silica mixed with some powdered flint. These were made by the soft mud process. Many fire bricks are made of flint clay, partly calcined, and as low as 10 per cent



bond clay which in many instances is far below the average strength of a high-grade bond clay. The angularity of flint clays and of ganister gives an interlocking bond and such materials will require less clay bonding material. Coarse water-worn sand, in which the grains will be more or less round, will be more difficult to bond and require a greater quantity of clay than sharp sand, than crushed ganister, than flint clay.

My guess is that 10 per cent bond clay would be a good starting point for a minimum clay bond in sand. If the product can be safely dried, it probably will stand up in the kiln. If it is excellent in its drying behavior, the amount of clay could undoubtedly be reduced. The process in this instance would be soft mud. A stiff mud process will require a greater quantity of clay.

## THE NEW MADDOCK POTTERY.



AN ADDITIONAL INVESTMENT of close to a quarter of a million dollars for plant enlargement by the Maddock Pottery Company, which makes what is quite generally conceded to be the very finest hotel

china produced in this country or any other country of the civilized world, has just been made to increase the annual output of the company. In previous years the annual output of this company has been in the neighborhood of \$1,250,000.00. With this new addition the output of the company will be practically doubled. The officers of this company are: Charles May, President; Mr. D. Wm. Scammell, Vice-President; Charles S. Maddock, Treasurer and Mr. Edward D. Anderson is Secretary.

The new plant is located in South Trenton on Third Street, near Lansing Street and is directly opposite the old Lamberton Works of the Maddock Company and consists of two two-story brick buildings, each being 60x120 feet. These new buildings were erected at a cost of \$250,000.00 which includes machinery and other equipment. Installation of machinery and the other equipment has just been completed about a month ago and the plant is now in actual operation. The machinery and all other equipment is all new and of the very latest construction and design. The slip-house is one of the most up-to-date in this section, and which includes the very best machinery, this machinery being furnished by the Crossley Machine Company. The machinery was installed by the Crossley people, under the personal supervision of Mr. Fred Drake, the well-known engineer and salesman of the Crossley Machine Co.

This factory is indeed a fitting monument to the progress of the Maddock Company and represents the very latest and up-to-date construction and arrangement of pottery equipment for the production of the finest hotel china. The plant lay-out and equipment is arranged according to the demands of practical experience covering a period of 32 years in production of china for hotel use. The plans for the plant were personally supervised by Mr. May, the president. Mr. J. Osborne Hunt of this city was the practical architect. The building of the kilns was done by Lewis Lawton & Son of this city, well-known throughout the country as one of the best firms along this line. Time and labor saving devices contribute to the completeness of the new building, aiding in a very material way in the speed of production.

The new addition is built of brick, iron and concrete and of fireproof construction throughout. A large section of the new plant will be devoted to office purposes only.

Six new kilns have been added which now gives the company a total of 23 kilns devoted exclusively to the production of hotel china. The six new kilns are in a kiln shed

40x135 feet. The plant arrangement is so compact and complete that unnecessary handling of the product has been entirely eliminated.

Every department has a compact progressive plan, beginning with the crude clay pits and continuing through to the slip-house, clay shops, moulding rooms, kilnsheds, biscuit cleaning rooms, dipping room, sagger department, biscuit wareroom, gloss wareroom and decorating departments. There is also a department which is entirely devoted to and where decorations are designed and prepared for transfer to the manufactured ware. This branch gives employment to highly skilled engravers, printers and other technicians of the decorating end of the hotel china pottery business.

One of the most important departments of the plant is the lithographing department in which lithographic stoves, printing presses, cleaners and other machines prepare the decorations on sheets to be transferred to the finished ware. This department is probably the most interesting in the whole plant.

To give an idea to an outside person, with no knowledge of the pottery game it would be interesting to know that a single coffee or tea cup has to pass through twenty-three different hands or departments in its manufacture before it is ready for the commercial world, and that other pieces of dining room ware pass through a proportionate number of hands in the process of manufacture, the tremendous value of compactness in such a factory can be more readily appreciated. To facilitate the handling of pieces in process of manufacture, the newest dipping devices and belt carriers have been installed. Workmen's lathes and benches have been placed to save the worker steps between the clay in the raw or unfinished state and the moulded piece ready for the last stages of manufacture.

An idea of the demand for Maddock china may be gained by the large number of drying boards that have been installed in the new plant alone, and not considering those in the old plant of the company. There are four thousand of these boards each six feet long. If these boards were to be placed end to end they would make a line nearly four and one-half miles long. Green ware is placed in the drying chambers on their way to the kiln for firing.

Materials which enter into the Maddock Hotel china are selected in the most careful manner. One of the principal selling features of the Maddock hotel china is that its manufacturers guarantee that its use will save the user 35 per cent. in breaking over any other china on the market. This guarantee is without doubt a great tribute to the toughness of this ware.

In the new plant the Maddock people will produce nothing but "Lamberton China." A distinctive feature of the firing of this china is that each piece is packed separately in the kilns and not in piles such as the general use and in cheaper grades of ware. This tends to produce the finest hotel china made.

The company gives employment to approximately 1,000 hands, each skilled in their prospective end of the game and this number of workmen include some of the best in the game. They work under ideal conditions and in large airy, and well lighted rooms.

In the kiln department of the new plant the latest and most approved devices are installed including oil burners and air blast burners.

At the outset the company spent seven years of time and great sums of money in its experiments and then put seven more years putting the Lamberton china on the market, where today it is probably in greater demand than any other line of high grade hotel ware.

The entire plant, both old and new is under the capable management of Mr. Fred Sutterlin, who has been connected with the company for some time.

J. E. N.



## THE IMPORTANCE OF CLAY STORAGE.

A. S. Platt, Van Meter, Ia.

THOSE OF YOU who are addicted to the reading of advertisements have probably noticed the recent one carried by the Mimeograph people in which the following introductory statement is made:

"Mighty as it may be, the power or skill of one man can accomplish only the human limit." This statement, I believe, applies, figuratively speaking, to the clay products industry, for large as our factory may be, regardless of the number of kilns, how modern, completely equipped, or how skillful our workmen, they can accomplish only one limit—the limit of our machines, and then only the limit of the immediately available clay supply. It appears that the question of clay storage should then be one of no slight importance and worthy of a good deal of consideration on the part of all clay products manufacturers.

There are several distinct advantages to be gained through clay storage, but there are three which are probably most important.

First. Mixing, or blending of the clay and shale.

Second. Weathering.

Third. The reserve supply.

These vary in their importance with respect to the location of the factory, the chemical qualities of the raw material used, and the volume of business being carried on by the individual manufacturer.

It is probable that there is no plant in which the value of mixing is not apparent to some degree, though the deposits worked by some factories do not contain the number of stratum worked by others and their benefits are not so plainly marked. All clay and shale deposits are made up of different strata, and each stratum varies in different parts of the bank. Nearly all shale deposits in this state are overlain with clays of different qualities and degrees of thickness. In most cases this top stratum is quite plastic, burns at a lower temperature than the shale, has a different shrinkage, and as a rule, when used alone makes a rather inferior product. In case a good storage shed is not at hand so that this clay can not be thoroughly mixed with the shale before going to the machine, or that the clay is not won by some mechanical device which will thoroughly mix it in the mining, this top stratum must be stripped or wasted at a good deal of expense, in order that the ware when finished will not be spotty and contain a high per cent of light or salmon material. This condition does not apply to the surface clay or upper stratum alone, but is in effect very general throughout whole deposits. In one portion of the pit we are very apt to find a shale that will not work up well into a certain sized product, other shales will make this size, but will also have their peculiarities in molding and can not be worked up efficiently into other shapes, but, as a general rule, when we make a good thorough combination of the whole deposit, mixing the clay three times as is done when put through the ordinary storage shed, we find that this difficulty is almost entirely overcome, and that the clay will work up well in the machine, take a much more even burn, and make a stronger and finer grade material.

Throughout Iowa we find very little clay that must of necessity be weathered in order that it attain a degree of plasticity which will allow it to be worked up into a moldable condition. In a good many fire clays this process is an essential, but as fire clays are not common in this section, the main

advantage that the Iowa clay products manufacturer derives from the process comes about through a more thorough and quicker slaking, and from a power saving due to the larger chunks of hard or slaty shale being somewhat broken up before reaching the pan.

As we know, a substance slakes when through the addition of water it is broken down into flakes or small particles and the rapidity or completeness of this action varies in different clays. Some shales that appear very hard will become plastic in a few minutes, others that appear much more porous will crumble with great difficulty, though loose and all alluvial clays are never exceptions to the rule and slake very readily.

The importance of slaking is obvious, a clay which will take water easily will work into a moldable condition much more readily than one which requires long submersion to break it down.

Slaking takes place when more water is present than the clay can readily absorb, and further, only when the clay is thoroughly dry. Moist, or wet clay, though it will eventually crumble does not slake, and consequently will not work up with anywhere near as small an expenditure of power, nor will it make as strong or fine ware as that which has been allowed to weather and become dry in storage.

The reserve supply carried on hand as an insurance against bad weather conditions, breakdowns in the pit, labor shortage, etc., is of course, to us, the most important factor of clay storage.

There are, we will say, an average of ninety to one hundred days in the year in which we have precipitation in the form of rain or snow. On many of these days this precipitation is slight, coming in the form of showers and snow flurries, and if the operation of the pit is stopped at all only for a few hours; however, there are a great number of times when this is not the case and clay mining becomes out of the question and must be discontinued, then if we have no clay in storage our machines must stop. When our machines stop our costs rise rapidly. We are no longer producing, and must either shut down completely or put our extra men to work in departments that are already sufficiently manned. Moreover, if we use a bonus system machine stops tend to greatly reduce the efficiency that we gain through this system. Repeated shut downs, particularly when they come at the first of a month, or in the middle of a good month's run, soon break down the morale of the employes, and they reach the "I don't care stage" in a surprisingly short time. Aside from this, Iowa, as a usual thing, has from six to eight weeks of very severe winter weather, a time in which the cost of mining increases almost twofold; during this time the condition of our clay is such that it is apt to come to the pan in great frozen chunks that will not pulverize with any degree of satisfaction, and when it is finely ground will not readily become plastic. During the normal year we have approximately three hundred working days and it is safe to say that thirty of them, at the very lowest estimate, are of such a nature as to render work in the pits impossible. If we do not have clay storage enough to carry us through what does this mean? A complete loss of ten per cent of the possible volume of our year's business, and an added cost to the whole volume of material made. If any of us had a machine that was completely out of order thirty days in the year, and worked very inefficiently some sixty more, we would promptly sell it to some friendly competitor, or give it to the junk man, sparing no available funds to overcome the difficulty. Yet many of us have this very same condition due to inadequate clay storage, and do not feel that the added advantage will warrant the construction of a storage shed.

There is another phase of this question which is hardly less important, and which has been brought about through the

\*Read before Convention of Iowa Clay Products Manufacturers' Association at Des Moines, Iowa, February 24, 1921.



fact that the majority of us have at this time, or are contemplating the installation of some type of clay mining machinery, either shale planer, shovel, dragline scraper, or excavator. In the majority of small or medium sized factories these machines have a greater capacity than is necessary to insure a steady operation of the plant, and when these machines are not being run to their capacity it goes without saying that they are not giving their full measure of efficiency and are consequently high in their operating cost. However, if we have a storage room of from six to twelve weeks' capacity, and can, by working our machines to their limit, fill this shed within four to eight weeks, we are then able to mine our clay almost as economically as the larger capacity plants, whose output requires the approximate tonnage of their mining machines, and we have the use of the hill or pit men during the remaining time.

There are many types of storage shed in operation, some are simple and inexpensive, others very completely equipped and show large investment. Some concerns find it advantageous and more efficient to grind their clay before storing, others prefer to store it as it comes from the pit. The field is almost unlimited as to the kinds and types of equipment available for handling the clay in and out of the storage shed, but whether it is handled in cars, trucks or conveyors the result is the same.

Increased efficiency through mixing of the raw material, better drying and weathering and greater running time.

#### THE USE OF MODERN ENAMELS.

THE UNPARALLELED industrial progress of the nineteenth century brought disadvantages in its train, notably the divorce of art from industry. The craftsman-artist, who once united the two, practically disappeared with the industrial revolution. Manufacturers, under the stress of competition, sought to produce as much and as cheaply as possible, disregarding the claims of fine design, good workmanship and satisfactory color. Artists on the other hand, affected to despise commerce and in a singularly impractical way refused to lend their aid to any of its activities.

In recent years, however, a new spirit has been evident which has brought business men and artists more closely into touch, and has borne fruit in several directions. An interesting example is the use of enamel as a means of decoration. This is really a revival of an old art. Under the Byzantine Empire and in the middle ages enamel was often used on a considerable scale for decorating articles in daily use.

Enamel is really a form of glass, made by heating together silica, potash or soda, and oxide of lead. It can be applied to various substances, but its best ground is metal. Ordinary commercial enamel and enamelled kitchen ware are upon iron; fine work is done upon copper, bronze, silver and gold. The enamel can be mixed with many different colors, and used either opaque or transparent. The chief methods of applying it to the ground are cloisonne, champleve, bassetaille, or as paint. In cloisonne the design on an article is divided up into compartments by tiny strips of metal and the enamel melted up into them. In champleve engraved lines or spaces on the ground are filled with enamel. In basse-taille the ground is embossed in relief and the surface enamelled. In painted enamels the enamel is applied like paint and then fired.

The chief characteristics in enamel are its brilliant and beautiful color, which is finer than anything obtainable with paint and second only to that of stained glass, and its great durability. Acid in the atmosphere, smoke or water,

do not affect it. To clean it only a damp sponge is necessary. It is both hard and tough, and will bear a great deal of rough handling without damage.

Enamel has, of course, its disadvantages, of which the chief are a certain intractability in handling and the initial cost of the work. The first difficulty is not serious, providing the artist is content to rely upon broad masses of color and does not seek for subtle graduation of tone or delicacy of modelling. In painted enamels these qualities can be obtained, but such work is probably unsuitable for ordinary purposes.

As regards cost, a large part of this is due to preparation of the design and carrying it out for the first time. Repetition of a design (as in the case of a shop sign to be used by branches) is not particularly expensive. Once the cast of ground is made a larger number of replicas can be produced at little more than cost of material. But even though initial cost may be high, it must be remembered that enamel costs little for cleaning or upkeep. In short the process is one well worth consideration by business men who contemplate any form of permanent decoration, especially if that decoration is to be applied on a considerable scale.

M. M.

#### AMERICAN CLAYS FOR AMERICAN CLAYWORKERS.

THE CERAMIC INDUSTRY of the United States has a total yearly output of manufactured product, equal to a half-billion dollars, despite the large foreign importations.

After a careful study of all phases of the industry, the advantages of this work could be greatly enlarged and the importations from foreign countries greatly lessened, by the development of the operations and methods that will bring about a greater and more thorough understanding of the ceramic resources of this country. The result would be a larger and more important industry, with work for a greater number of men than was ever employed before, and above all the supremacy of the work in the ceramic trade.

Previous to 1914, all the graphite crucibles produced in this country were made of graphite from Ceylon and bonded with German Klingenberg clay. There has been a common belief among the producers and users of this kind of melting pot, that American bond clays and graphite were so inferior to the foreign elements as to preclude them from investigating the possibilities of the domestic elements. The result has been a total neglect and consequently no available data from investigations.

Subsequent to the beginning of the conflict in Europe, no Klingenberg clay could be shipped from Germany. It was indeed fortunate for the crucible makers that they had a good reserve of stocks of this kind of clay on hand. After this stock was exhausted it forced the producers of crucibles to turn toward the use of the domestic clays. Up to this time no information had been collected, to be available, to help the crucible makers in their selection of the proper bond clays to use for their products. This state of affairs made it necessary for them to select their clays by the guess method, which resulted in length of service of crucibles being shorted as much as 60%. Our manufacturers depended wholly upon Europe for this kind of bond clay, and this crisis brought before them the possibilities of clays existing right here in our own country. Today the investigations are progressing in a very pleasing and substantial manner. The time is not far distant, when we shall know the possibilities of all the clays that exist right on our own continent.

In as far as can be ascertained, no German Klingenberg clay is being used in America at the present time, and it is pleasing to note how some of the crucible producers are now advertising the superior qualities of their products, due to the use of American bond clays.





THIRTY-FIFTH ANNUAL CONFERENCE DINNER  
NATIONAL BRICK MANUFACTURERS' ASSOCIATION  
AND THE  
COMMON BRICK MANUFACTURERS' ASSOCIATION  
OF AMERICA  
HOTEL PLAZA, NEW YORK, N.Y.  
FEBRUARY 2, 1921.

TRUCKER  
11-153

A FLASH LIGHT OF THE ANNUAL BANQUET OF THE NATIONAL BUILDING BRICK ASSOCIATIONS, NEW YORK CITY, FEB. 3, 1921.



# N. B. M. A. ANNUAL BANQUET

New York City, N. Y., February 3, 1921.

AS USUAL, the annual banquet was the chief social function of the Thirty-fifth National Convention held in New York City, February 3, and proved a most enjoyable occasion. There was an intermingling of social chit chat during the informal reception previous to the opening of the doors to the banquet hall, which enabled the members to get acquainted with the distinguished guests and visitors. The banquet hall presented a fine appearance, the decorations consisting of "Old Glory" and flowers at the head tables, of which there were two, affording ample room for the comfortable accommodation of the officers of the two associations, and their wives. It was a fine picture, as the reader may see by the accompanying photograph. An excellent dinner was served and the speeches were interspersed with musical numbers, both vocal and instrumental, which added much to the pleasure of the occasion.

Secretary Randall: Mr. Toastmaster, I give to you the emblem of authority, and you face as fine an audience as ever any toastmaster faced anywhere.

## TOASTMASTER HAMMOND'S INTRODUCTORY.

Toastmaster W. K. Hammond: I had a friend—I have a friend now—but I had a friend who was a very celebrated lawyer, and I was driving with him behind a pair of horses, of which I was very proud, and he did not remark upon the horses, I wanted him to praise them and he didn't, so finally I said, "A pretty fine pair of horses, what?" He said, "Hammond, what is evident to all men need not be spoken of. (Laughter). I guess I got our Secretary that time. You have often heard the phrase that something was "wished on a person." I never like that term, but some things may be "wished" on you which may be agreeable. Mr. Randall said, "You are to be Toastmaster," and I said "Yes." Now that is all right. Ladies and gentlemen, this is an old organization as years go, and at the first banquet and at all the meetings there was one always in attendance who is not with us tonight, and to the memory of our beloved R. G. Eisenhart I turn down the empty glass. Let us think for just a moment, we who knew him, of R. G. Eisenhart, and if his spirit is anywhere I know it is somewhere near looking in on us tonight.

We have with us, you know a toastmaster always says, "We have with us," and I am bound to carry out the best of what toastmasters have said, not expecting to be original in anything. You have each found a little pamphlet, a little book at your place. The gentleman who prepared that is here tonight, and I want to tell you he is a very pious man, and a kindly man, but I want to admonish him and his people, that he is liable under the law, because he came to me and we made an agreement. I don't care for myself, I am past that. He said let me do so and so, and I said yes, and that was an agreement. Don't you let them know it, Dr. Wasson, or they will have you indicted, you are entering into a conspiracy to save the souls of men.

This toast list was headed by Mr. Randall, nearly everything is headed by Mr. Randall—it is "Hospitality sitting with gladness." I read that and said, "Splendid." Mr. Randall said "Go on, and read the rest of it." I did and it said "Introductory, Toastmaster William K. Hammond, New York, N. Y." I said "That is all right." He said, "Read the next," and I said, "I won't," and I drew my pencil through it. He said, "If you don't, I will take the job away from you." I

never had a job taken away from me yet, so I will go ahead and read it.

"A town that boasts inhabitants like me can have no lack of good society."

Now, I have read it. I have a charming audience, an audience gathered from Spokane over to Boston, and we are all here as Americans, and all inspired with the thought that where home is is the dearest spot on earth, and wherever it is, it is in America, and that it is a part of the whole land in which we live. The desire of each one is that America shall take its place and hold it as the leader of all high bred, upright manhood and womanhood and all that it means to be right, with no thought of taking from another for unreasonable gain; with no thought of depriving any of their natural rights; that is part of the ideality of America. "Life, Liberty and the pursuit of happiness, that for which our ancestors pledged their lives, their fortunes and their sacred honor, has passed down to us, and we will pass it on to posterity developed and unimpaired.

You do not wish to hear anything from the Toastmaster, except when he jollies and torments and pesters the speakers, but this is a part of his job and I never was good at pestering anybody except those nearest to me because they need my pestering, don't you see. Charles Bryan is the man who taught W. J. Bryan all the kinks he knew about oratory—The Crown of Clay, now you know it did not read that way when he said it, but he meant it, and he is after it and he is going to get it. He has a halo now and he will speak to you on a subject with which he is perfectly familiar. He has been a druggist—if you get me (laughter)—but he is a brick-maker now, and if there is anything can beat that, I don't know, because they say there is three hundred per cent in drugs and some of us know, while some are trying to find out what per cent there is in brick. I am not quite sure what there is in it myself, but I suppose we will find out if we are patient about it. Mr. Bryan's subject is "Evolution." "Evolution is not a force, but a process; not a cause, but a law." Now Mr. Randall is responsible for putting it that way. I will take what Mr. Randall says, but I do not believe it at all. However, I have great pleasure in introducing Mr. Charles H. Bryan of Detroit, Mich. He will prove whether it is right or not. (Applause).

## "EVOLUTION."

Charles H. Bryan, Detroit, Mich.

"Evolution is a force, not a process; not a cause, but a law."

Mr. Toastmaster, Ladies and Gentlemen, our honored guests and members of the allied brick associations here assembled:

Now, I think I had better quit and sit down. This subject of evolution does not interest me, but it may interest some of you to know how it came about. The secretaries, the two best secretaries of the two greatest brick associations on earth got together and arranged all this for your edification and enlightenment, so they selected the subject of "Evolution" for me. They know how rambling I am and how much latitude I have. By the way, they started to tell me what to say, so to call their bluff, I said, "If you will write this thing for me, I will speak it, and if it takes all right, I will claim it, and if it



don't someone else will have to." That is the situation exactly.

It is no easy matter to turn a subject of this kind into an after-dinner talk, and to one unskilled in oratory, regardless of what our Toastmaster has said, I pray your indulgence in any effort of mine, and just imagine, if you please, you brick-makers if you were up here in my place.

It is mighty pleasant and I am mighty glad, and I know you are, on occasions of these banquets to have the ladies with us, and I think it is quite appropriate that I may as a brick-maker say something to you. You are our partners; through you very often, quite often, we receive the inspiration that moves us to higher and nobler ideas. This is evolution you know, and going back to where the brick business started, it rather got me going when Mr. Obermeyer of Chicago, who responded to this man from New York, who is running politics and the Board of Aldermen, to hear Mr. Obermeyer go way back in the brick business. Then those of you present when Miss Weeks started to talk to us the other morning, heard about the tablet of laws being handed down on a tablet of clay, I thought it was stone, but Miss Weeks said clay. They took me back so far, I did not know how to get you back here. The first brick were made in Egypt, and straw was used in the manufacture of brick.

Toastmaster Hammond: Is that permissible, Mr. Randall?

Secretary Randall: I thought Mr. Bryan knew there was an unwritten rule that any speaker referring to Egypt and making brick without straw, etc., is subject to a fine of \$5.00. (Laughter.)

Mr. Bryan: Mr. Stoddard, you pay it, and perhaps we can keep Mr. Randall still. However, I know the Toastmaster and Mr. Randall are trying to fluster me, and now maybe they will let me proceed.

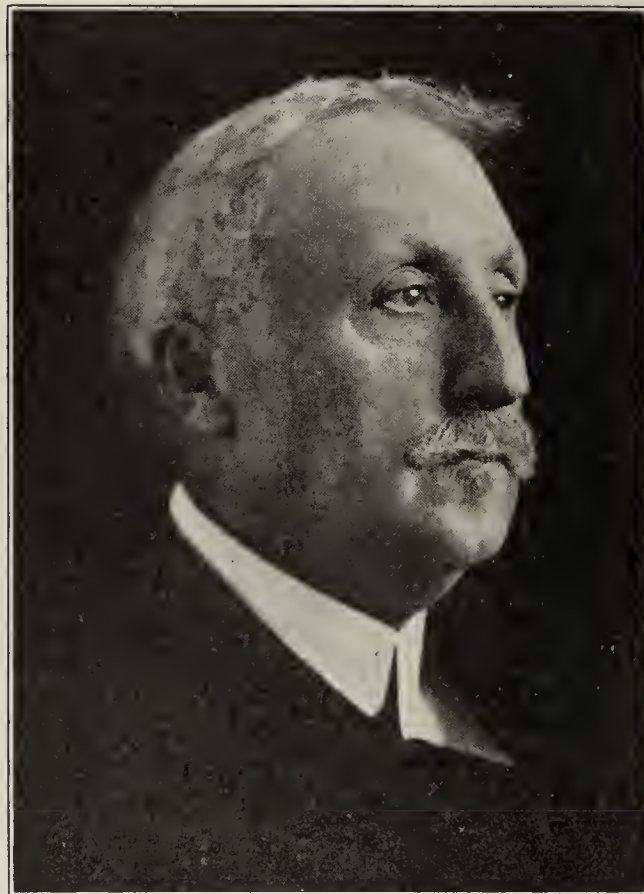
However, straw was used in the manufacture of brick something after the fashion that hair is used in plaster.

Let us take a fleeting glance at our industry within the memory of man. No doubt some of you present have the recollection of hand-made brick, when the brickmaker imitated the housewife in mixing and placing in shape the clay as she did the bread—drying it in the sun, burning it, etc. Then this primitive brickmaker, after the process was completed, hiked to the market and sold the product of his effort at a price which he thought the clay was worth, never figuring the cost. This process was quickly followed by the more up-to-date method, passing through the horsepower stage up to the present process. It has always been a matter of pride to the brickmaker as we follow the different stages of his industry, from the straw brick to the present method, at all times to produce quality, and what is uppermost in our minds is the fact that we have given him quality, even to a larger degree than we have received it. Today we can look with pride upon the many monuments erected to us—the silent running underground construction, all withstanding the ravages of time and the assault of the elements, from the primitive brickmaker of straw and clay to the present more up-to-date plan.

In my mind's eye I can see the brickmaker who made the hand-made brick. What care he took in their making and with what pride he looked upon his efforts. And then we follow him as he starts to dispose of his ware, with a sort of "please take my brick and pay me what you want to" air. And I can remember when we did business by the hand-to-mouth method in Detroit. Less than twenty years ago we had 20 or 25 brick-makers. Some have gone to their reward, some are working for Ford—but, with them, it was not Evolution, but Dissolution or going backward. You notice that I say "Brickmaker," for that is what he was called—and he is today just a "Brick-maker." Are we ever going to get into the manufacturing class? Is the evolution going to take place, or is it now in process? Let us see.

I have stood in a great auditorium and have heard the evangelist cry out, "NOW is the day of Grace; NOW is the accepted time." Indeed, is this not so? Is it not about time that we began to employ up-to-date methods in our business? Is this the accepted time when we shall cease being "Brickmakers" and become "Brick manufacturers?" Let us get in step with the times and forge ahead of our competitors, who, by judicious use of publicity have made inroads into our business by having the Building Public use a material that we know does not compare. Then, let us tell the Public something about our business and our material. Now let us all use up-to-date methods, keep in close touch with the cost, and let us support our associates that they may go out and tell the Building Public more about our commodity. Let us reverse the method and create a demand so that we will not have to beg someone to take our bricks. All together now for a bigger business, with an eye to the future, with confidence in our associates and the ability to create this demand. Let our slogan be, "Build with the best—Build with Brick."

It is impossible for me to pass this opportunity without



Toastmaster W. K. Hammond, New York City.

asking, "Has any change or evolution taken place with us as brick manufacturers?" At times in our lives we often stop for a moment and wonder why all this strife, this conflict, this burning up of our mental and physical energy, and from the late war we might have learned the lesson that although we went into it with a determination to win, yet we longed for peace. After all, is it not true that you and I want peace, the peace of mind that brings us comfort? Every human heart that has ever beat has sought peace. Families estranged by the proverbial "line fence" have perhaps been brought together in peace by a little child; when two stubborn old grandparents would return to the fork in the road in their lives and again restep this time in peaceful bliss—the journey that is all too short. Even is it not so in your life and mine when we long for a peaceful understanding, without violation of laws with our customers and competitors, that we may have peace of mind. It has been said that in ancient times war was a business, but in these later days business is war, modified just now somewhat by our own efforts in this association.

You all remember when our competitor was regarded as



well equipped with horns and hoofed heels, but when face to face in these conventions we realize that such is not the case, that we are all, or should be, gentlemen with equal ambition, and that a peaceful adjustment of all differences is for the best after all. Let the evolution take place in ourselves, with higher ideals and nobler purposes. Let us be as we are told about in the Temple in the Servant in the House:

"It has been seen in a certain way, under certain conditions. Some people never see it at all. You must understand, this is no dead pile of stones and unmeaning timber. It is a living thing. When you enter it you hear a sound—a sound as of some mighty poem chanted. Listen long enough, and you will learn that it is made up of the beating of human hearts, of the nameless music of men's souls—that is, if you have ears.

"If you have eyes, you will presently see the temple itself



Charles H. Bryan, Detroit, Mich.

—a looming mystery of many shapes and shadows, the work of no ordinary builder. The pillars of it go up like the brawny trunks of heroes; the sweet human flesh of men and women is moulded about its bulwark, strong, impregnable; the faces of little children laugh out from every cornerstone.

"The terrible spans and arches of it are the joined hands of comrades, and up in the heights and spaces there are inscribed the numberless musings of all the dreamers of the World.

"It is yet building—building and built upon. Sometimes the work goes on in deep darkness; sometimes in blinding light; now beneath the burden of unutterable anguish; now to the tune of a great laughter and heroic shoutings like the cry of thunder.

"Sometimes, in the silence of the night time, one may hear the tiny hammerings of the comrades at work in the dome—the brothers that have climbed ahead."

I have used this quotation that you may have eyes to see and ears to hear, and that you may be one of the ambitious workmen who has climbed higher, and that each of us may mount the ladder and climb up with our brother; that the chorus of hammering may be as sweet music in the ears of

all, and that out of the belief in this temple will come a great peace—a peace back of which has a perfect belief in an ever-ruling Providence. Then surely will come a peace to the nation and to the business world. It will come because we more clearly recognize the indissoluble tie that binds every human being one to another. If we are to revert from war to peace and build a permanent peace, it must be on the foundation of the Brotherhood of Man. (Applause).

A very pleasant duty has been assigned to me, Mr. Hammond. The Directors of the Common Brick Manufacturers' Association wish me to express to you their sincere appreciation and gratitude for service rendered, not only to our Association, but to the brick industry generally, and as a slight token of their esteem, we wish you to accept this vase of roses. May the sweet perfume which is now wafted to your nostrils be with you many days to come as a reminder of our sincere regard for you.

To the New York Brick Manufacturers we commend this dean of the brick industry to you and look forward with keen anticipation to the day when we shall hear you say, something after the manner of Ruth: "Thy people shall be my people, where thou goest we will go." And then we see this nestor of the brick industry with a pure white silver hatchet, emblematic of purity, rectitude of conduct, in one hand; in the other the American flag, emblematic of patriotism and submission to her laws, blazing the trail through the forest of commercial trouble, but with a vision inspired by confidence, he sees in the distance the light of a new day, and as he leads you out and the glorious sun rays of a new era spread its lustre about you, with devout thankfulness you raise your head and sing,

"My country, 'tis of thee,  
Sweet land of Liberty  
Of thee I sing.  
Land where my fathers died;  
Land of the pilgrim's pride;  
From every mountain side  
Let freedom ring."

Led by the delegation from New England, the entire audience arose and joined in the song.

Toastmaster Hammond: "We shall know each other better when the mists have cleared away." Charley Bryan, to you as the spokesman of the Directors of the Common Brick Manufacturers' Association, of America, I thank you. You have touched me in my most vulnerable spot, my heart. That men, whom I have known as I have known you, should on an occasion of this kind bring to me a tribute, recognizing the kind of a life I want to live, and which I try to live, and speak of it in the way you have, takes from me the possibility of replying as I could, and I can only say as the poet said, "I would that my tongue could utter the thoughts that arise in me." I thank you, I thank the Common Brick Manufacturers' Association of America for these flowers, and may that perfume which exudes from the beautiful flowers remain always while I live as a remembrance of this Association, and of the hearts, which prompted this expression. Again, I thank you. (Applause.)

I told you Charlie Bryan taught William J. Bryan all he knew about oratory, and the nice thing about it is he never reneges, and you can get what I mean by that. The other Bryan did. He said when Mr. Randall interrupted him and put a fine on him that he got him all flustered, and now I am all flustered in more ways than one. But since he started something I am going on that line a little further, and I will say to our guests, that this audience tonight has members of two associations, the National Brick Manufacturers' Association, which was born thirty-five years ago and has continued ever since under the guiding spirit and control of Mr. Theodore A. Randall, from which several organizations



of clayworkers have swarmed. I do not mean they have swarmed from Mr. Randall, but they have swarmed from the N. B. M. A. and are getting independent, and three years ago the Common Brick Manufacturers Association swarmed out from the N. B. M. A. For our guests' information, the N. B. M. A. is an organization of educational, scientific, development and numbers among its members the leading men in scientific research—I will not name them, but you will find them on the roster—who have helped the manufacturers of today to measure up with any other line of manufacturers. Science has come in and in place of the old method of mixing it up by hand, and throwing it in the mold and dumping it out on the yard, has come the modern method where electricity is harnessed, and the development of production goes on night and day in the year and unceasing, against the other method where the brick were made by hand and put in the mold and dumped in the yard, and if the rain came upon it, we got washed brick, and I often pass on the street now a pile of old time washed brick torn, many of them from houses erected fifty or one hundred years ago, and I say "Holy Mackerel, what a lot of cussing and swearing there was trying to get those brick covered for fear they would get washed at that time, now long ago."

Now this fine, new Association of ours, the Common Brick Manufacturers' Association has a secretary manager, Mr. Ralph Stoddard. Those of you who do not know Ralph Stoddard have an education in front of you. A man who is charming in manner and perfect in address, and has inside of his organization the thought of development of the industry that he is connected with. He has a brain power that is being developed to the nth degree, and he has developed the brick-maker into the brick manufacturer. Following that line of thought which he developed until finally they shall take their places along with men who do not want to give something for nothing. If you get me on that, and don't have me indicted I will be all right. To put it a little more clearly, he wants them to produce in such a manner that the material or product will be so attractive that anybody living in a house not made from that material will not be at all satisfied, and the wife of the family will tell her husband in no uncertain terms, "It is a brick house we must have, John, if we are to be anybody," and that is what Ralph Stoddard is after. To bring that to the knowledge of the people is a great thought, and his thought leads on to publicity. We all know that thought. We all know that is the kind of a house to live in, but the great public, the millions of people who must have homes do not know that, but they read in magazines and they see places built of lumber and they see houses of cement, and they read about these various materials which go to make homes attractive. But they haven't as yet read much about the attractiveness of brick as a material with which to build a house which shall contain the home. Now Ralph Stoddard is destined to bring before the public of America that truth that brick is the only material, indestructible material, the material possessed of the four elements, earth, air, fire and water, and when it has been placed in the structure, that structure is secure from doubt as to its strength and durability. Ralph Stoddard is the wizard that lives it, eats it, and yet he cannot do it alone. Schlake cannot do it alone. George Clippert cannot do it alone. Charlie Bryan cannot do it alone. None of these men can do it alone. Fritz Salmen cannot do it alone. No man can, but you all come in and see what we all can do. What do you mean, come in? Come in like men. Do these things he has worked out and planned. If you will come to him he will show you how to do it. You say, "Is it going to cost money?" Of course, your chauffeur costs you money, your housemaids cost you money, if any of you are so fortunate as to have any, and all these things you have for development costs you money. "What do I get back for it?" Now I am getting on dangerous ground as I am admonished, and I don't dare talk about getting anything back out of it. The principle that Ralph Stoddard is working on is that you shall bring by this method a knowledge to every one who wants to build a home, the fact that brick is the material with which to build it of, and when that time comes and people want to build homes, they will grasp that fact, and your business will begin to grow and grow, and it won't make

any difference how much wages you pay your men, they will earn the money. You heard Charlie Bryan, these manufacturers used to go out and beg someone to take their brick and then feel thankful if they let the horse and cart come back after delivering the brick. Happily those days are past. I know the brick manufacturer of today will say, "if I can't get my costs, and something which will enable me to keep my plant going and get something out of it"—I think you will know what I mean out of that. I think I have said enough.

You did not come here to listen to me all evening. The next speaker is a gentleman who lived some time where the immortal cod-fish was sacred, he believed where he lived was the hub of the universe, and he could not help it. He was born that way, and a good many people think that way, but this man is a man of discernment and some of them do seem to come out of that place. I have the honor to introduce to you Magnus W. Alexander, managing director of the National Industrial Conference Board, of New York City, whose theme is "Some High Lights in the Industrial Situation," and the sentiment accompanying same is "We are building not for the day but for the future." (Applause.)

#### SOME HIGH LIGHTS IN THE INDUSTRIAL SITUATION.

Magnus W. Alexander, New York, N. Y.

"We are building, not for the day, but for the future."

Mr. Toastmaster, Ladies and Gentlemen:—

A native of New York City, many years ago, but educated in the schools and universities of central Europe and returned to my native country some twenty-five years ago, I stand before you as a horrible example of what German culture can do to one's gutturals, a damage which twenty years of life in Boston has not been able to correct. I take pleasure in speaking to you as a manufacturer, or ex-manufacturer.

The difference is just this; it has been my lot for over twenty years to help harness that monstrous force electricity by the method of mathematics and engineering, and the construction of maximum in steel and iron and copper, while you have been manufacturing an ancient article so much needed for our habitations, and some of which I have heard is used to express to certain orators and leaders the attitude of the audience.

In my long time connection with the General Electric Company it was my good fortune to come in contact with several hundred thousand employes during a period of twenty years. Thus through a problem in industry I had the opportunity of seeing it at its best and at its worst. All nations were represented working for us, and the combinations of the different conditions brought to the surface not only the labor problem but other problems out of which have grown certain convictions which I should like to present to you.

On the program your irrepressible secretary has said, "We are building, not for the day, but for the future." It is a challenge. It means we must build with a vision ahead, and with a look back to the background in order that we may understand every one of the steps we are taking now. Now what is the background? I shall not go as far back as the distinguished gentleman from Michigan—is that the proper way to address a future Senator? I shall not go back to the dark ages, but take you back only a few centuries to prove this assertion. That in all parts of human progress there have been certain ego affecting human activity.

Let us take the thirteenth and fourteenth centuries, the fifteenth, up to the sixteenth and seventeenth centuries, and we find in the religious activities, the ego in all human action. It was then at its worst, they fought to defend it or to take religious issues or crusades. The worst, the feud in which Germany and France were engaged, the war to extinguish the Dauphin; the war which Spain as the dominant Catholic nation waged against Protestant Holland and England, are merely examples.

During the eighteenth and nineteenth centuries politics stepped into the foreground and actuated most activities. The wars which were fought during that period had politics as the background. We call your attention to the many wars which England fought, the Queen Anne war, the war of the Austrian secession, and finally the American Revolution. At this time, the doctrine of the divine law of Kings began to crumble and only yesteryear it fell into the dust. Democracy began to show her head above the horizon and parliaments



became more representative everywhere; a new spirit seemed to be abroad and with it nationalism developed.

Then came a new period, a new note sounded through it which stabilized human rights. Industrial evolution had changed the political and economic stage with the substitution of factory economy for the system of domestic production, a change in the life of the people began to make itself felt. Where factories grew cities developed, and these cities developed in accordance with the conditions that prevailed in one locality or another, and the type of manufacture or agriculture or the branch of the industry which prevailed left its imprint. In the northern part of England, because of the proximity of the coal mines, those northern manufacturing cities arose, like Birmingham, Manchester and Sheffield.

For the reason that the soil was poor and did not permit of agricultural pursuits, the New England cities became the substantial examples of manufacturing industry in the United States, but with the development there came civilization, and one group became dependent upon another, and that reached out further and further until it reached beyond the boundaries of the State and Nation, beyond the Nation's boundary in international fields.

A loan negotiated by China becomes the immediate concern of the bankers everywhere. A disturbance among the sheep growers and sheep shearers of Australia affects the world market in the United States, and a lapse of the silk market of Japan only a few months ago had an effect on our own silk industry. The strike of the coal miners in England almost paralyzed the industries of Italy. So you see today we must have an international outlook, by which I do not mean to say, however, that we must become internationalists.

We must look beyond our border to see there is a dependence one upon the other, of all human activities, when we may learn and listen and profit by experience coming up within our own borders to build up our own national industrial system, we have this background. Let us see what our industrial situation is now, and what it may lead to in the future. What is the real cause of strife and unrest and somewhat industrial warfare—I say somewhat industrial warfare, because I am perfectly convinced that there is much less industrial warfare in the United States than we are led to believe by reading the headlines of our daily papers. (Applause.)

Thousands of manufacturers with their millions of employees toil side by side, day in and day out, in harmony for the benefit of both, and for the benefit of the community, but no one seems to think in that every day humdrum God-fearing existence there is anything out of the way, or worthy of notice. But when in some corner, somewhere, for some reason, strife arises and a strike follows with all that it means, then the newspapers have a heading on the front page to tell us all about it, and make us believe that everything is becoming darker and darker.

What is it that the workman wants? It seems to me he wants four things. He wants the best wages he can get. He wants relatively short hours of work in order to have an opportunity of relaxation. He wants fair treatment from his employer, and he wants stability of employment. I think I have stated his position in inverse proportion of their importance.

Naturally all men want to get as much for their work as they can. You and I have been looking for the largest salaries and dividends we could get for our wage, and the worker looks for the largest wage in his terms, and yet the worker does not so express himself in public, or the leaders of—or shall I say the misleaders—certain groups of workers. The great mass of workers are realizing that the wage is not the important thing, but the all important thing is what the wage will buy him in the necessities of life and in the comforts of life. The number of days does not count with him if for the greater number of days he cannot get more, or even less than he received heretofore. He is striving partly I believe for the high wage for other conditions which contribute to his better citizenship. Nevertheless we must struggle with the wage problem and try to understand it and try to know its relation to other factors in our life.

During the war and during the year or two following the armistice when the workmen did not demand higher wages, and yet the claim always was that the cost of living had risen and the wages had to rise in the same proportion. There are two things in this statement that need qualification. The cost of living has risen by how much and what is meant by the cost of living? There has been confusion in the minds of the public as to these two terms, and facts have been lacking.

Until four or five years ago we looked at these things dif-

ferently. The change of the cost of living is due to the changing mode of living, and to the changes in wholesale commodity prices. In their calculations making up these figures are included wholesale prices of cotton, of lumber, and pig iron, and matters of that kind. True none of these have ever met in the family budget, the leather in the shoes, the leather finally in building construction, the cotton in wearing apparel, an intimate place in the family budget, which they have to have and know. Moreover, the wholesale price in this has a right in the family budget of the worker. The worker is not interested in the price of beef on the hoof, but he is interested in the price of one pound of beef in the butcher shop, and when he studies the value of prices, will find that the growth of wholesale prices have a close relation to retail prices, so wholesale prices have an influence on the family budget.

The National Industrial Conference Board which is the research arm of the industry in the field of American economics, undertakes to study family budgets on a true basis and assign them the proper value of retail prices and see that the change is in the proper cost of living itself. Let us assume that being established, what of the claim that wages must change and rise as the cost of living rises. There is enough economic truth in it to give us a starting point, and there is enough economic fallacy in it to make us ready for the fall.

Let us illustrate. Let us assume that in 1914 before the day break of the world war, \$10.00 was the least that an ordinary American workingman's family needed in order to keep body and soul together, in order to live at the minimum standard of decency according to our American conception. If any wage earner responsible for a family, earning less than \$10.00 a week on the average, became a charge on the public, with damage to his manhood and our own, he might claim to his justification that industry should in return for a full day's work give him at least \$10.00 a week to keep body and soul together. It is true when costs rise 100 per cent as it did up to about May, 1920, this very same man could claim with the same justification that his wage must now rise 100 per cent—must be \$20.00 instead of \$10.00 in order to again give him a chance to keep body and soul of his family together.

Now on the other hand, when our worthy toastmaster, not to speak of the irrepressible secretary, gets on an average of \$100,000 a year, could you justly go before your board of directors and justly claim that the cost of living having risen 100 per cent, ask that your salary be raised to \$200,000 instead of \$100,000. You could go to your directors once.

Now I give you an illustration. In order to earn more than was absolutely necessary to maintain a decent standard of living he ought to have been willing, and he should have been made to carry a part of the burden of the higher cost of living that came about in part by our own extravagance and careless living and in part by the exigencies that the world had to face. If you take one group of men like the high priced mechanics, high price locomotive engineers, that because of the cost of living raised 100 per cent their wages must be raised 100 per cent, you can with the thought I just expressed, very rightly refute the ridiculousness of their claim.

Now in regard to the number of hours. That again is a very human proposition, which had to be granted merely because it is humanity. It had to be granted in many instances under the pressure either of law sometimes hastily enacted, or of combinations but if we take the broader look, stripped of purely selfish consideration, is it right to give men too much leisure time and too little of the work time, when they may not be prepared as they usually are not, to use that greater measure of leisure time. Education to my mind, should prepare us for two parts of living, the work part and the leisure part. I think education is pretty well preparing us for the work part. I think education is too hard as applied, except in exceptional instances to prepare us for the leisure time of life.

How many of the mass of people know what to do with themselves at four or four-thirty when under the forty hour a week arrangement, they are allowed to go home, with the saloons now closed. Are they able to sit down and take a good book and read of the history, of the achievements of men, or the development of their business in which they are now engaged, or otherwise amuse themselves with clean literature? Are the masses able to enjoy good music, or to go to an art gallery and look at the wonderful masterpieces? Most of them are entirely at a loss as to what to do with the time and they are in a dangerous condition, when my friend's friend, the devil, will have his best opportunity. So it seems to me. I call him your friend, Dr. Wasson, because you are so concerned in warning us against him.

Taking therefore the broader view and assuming that the



minimum we shall work out and the shorter work each week is a danger, we should proceed with caution, while at the same time we are building up our educational system to teach these men how to enjoy the additional leisure time given them. Let me give you one example of what happened here in this city. On the day following the signing of the armistice, the Secretary of the Navy telegraphed to all navy arsenals to cut out all their time work for which double time was paid and conserve the financial resources of the country, and as soon as that order was posted in the Brooklyn Navy Yard, 5,000 men went out on a strike in protest against the shortening of their work day. Were they more interested in the shortening of their work day, or were they more interested in perpetuating that camouflage of getting more money for the day or for the week?

I think right minded men like to do an honest day's work. In some industry and under some conditions, it would be a crime to make them work seven or eight hours. For instance in some part of blast furnace operation, or in the steel mill, the task of molding steel, I think that more than four hours at the most is the proper time for keeping that worker under the strain and stress of that operation. Do you think that a man upon whom there is any special resting, either physically or mentally, can work more than eight hours and do it without detriment to his health and well being? It has been said by the advocates of that shorter work day and work week that more production can be secured with the short hour, and yet the facts with which we are becoming possessed, definitely refute that proposition.

In individual instances it has been proven that the worker that was reduced from the fifty-four to the forty-eight, an investigation will invariably show with the reduction of the work week, there came a change in machine equipment, or in work methods, or even in management which did not cause an increase in production. Again I say not only from years of intense study, but from many years contact with vast numbers of men, that within limits of say fifty-four hours a week men are not so keen as we are sometimes made to believe in reducing their work hours, but what they are more keen in is to get a satisfactory answer to a proposition, namely that of fair treatment. They are men and women, even if they are workmen and workwomen. They feel it and they feel it keenly; they feel especially keenly when they are not treated as such, and therein lies one of our great causes of unrest, the failure to recognize that they are men and women, perhaps on a lower scale intellectually, but just because they are on a lower scale perhaps the more sensitive of good treatment.

Up to the time of the war, there has hardly occurred any strike of magnitude anywhere in the land that was not due to a wrong move on the part of the foreman or superintendent in the treatment of the people and the help. Now, it goes beyond hours of work, because they are not regulated by that, and it goes beyond the wage scale, because that is not regulated by him.

The thing he regulates is the treatment of the men and women under his charge in the common every day work. In that field should lie our best effort, and it is an encouraging state that a wonderful amount of progressive human work is being done in that direction in many firms under many conditions. Why the profit sharing system introduced here may go into the discard, why the mutual benefit association organized there, may prove a failure there, is proof that the effort in itself was a failure, but only that its application was a failure.

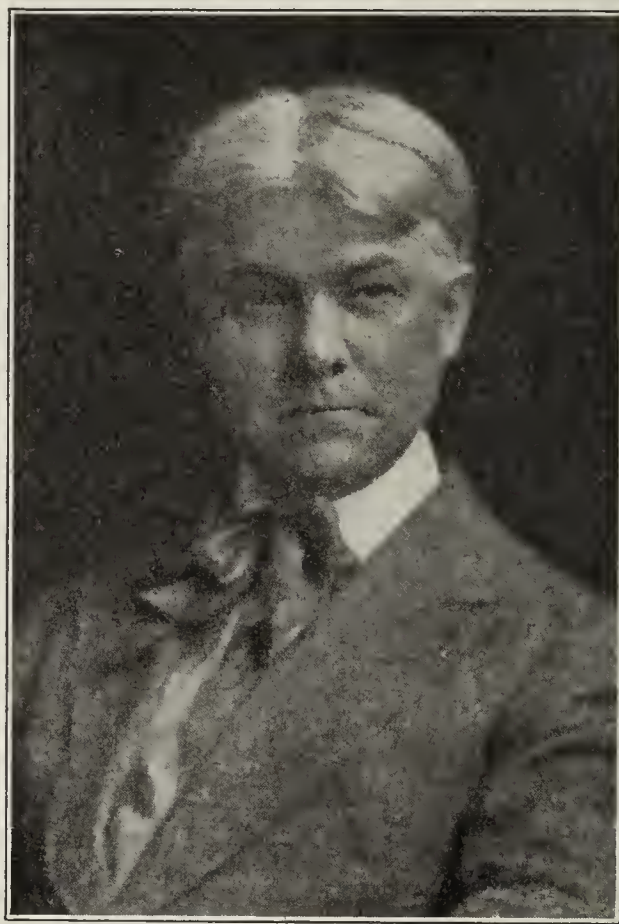
More important, at least in times like this is the demand of the worker that he be given the assurance of work when he is willing to perform work in a satisfactory manner, and this will have an influence on the average worker, and the average worker is an honest man and a reasonable man. He receives his \$3.00 or \$4.00 or \$5.00 a day, and plugs away at it from morning until evening, from Monday until Saturday, and from January until December. He is married, he is raising a family—perhaps the little girl may have reached the age where in order to give her a better station in life, the father wishes her to have the benefit of some music lessons, and unable to buy a piano outright, he secures one on the installment plan, and every evening when he comes home tired from honest work, he refreshes in the bosom of his family, watching the progress of the little ones, feeling satisfied he is furnishing those dependent on him with the real comforts of life.

He may have spent years with you, helped you to make your profits, and then comes the day perhaps entirely beyond your control, you as a manufacturer are unable to give the workers work, and you say—if you are not human, you say, "No more work." If you are human, you say, "John, I am sorry, orders have so fallen off I have no more work in that

department. There is no use coming back tomorrow, but as soon as I start to work again I will let you know." Picture the frame of mind of that honest worker who now goes home to his family without peace of mind because he knows within a few days he will be unable to give them what they are accustomed to. He will be unable to let the little girl continue with her music lessons, or the little boy have what is necessary to make his school life profitable.

That is the condition we are facing. That is the condition which three and one-half million people are today facing in the United States, scarcity of employment. That is what the workers want above everything else, and I speak now of the honest minded and the decent worker, and what is our answer to him. Practically, there is no answer. We have not yet learned to solve that problem to any degree of satisfaction, and out of that situation, in my opinion, arises more unrest in industry than any other situation. In that very situation are the seeds of anarchism and bolshevism, and if you put yourself in that fellow's place, I wonder if you would not develop anarchist and bolshevist ideas and doubt of capital and government which we have and which has been builded on the basis of conservation of untold centuries.

So when we once find the answer to that problem, then we



Franklin H. Wentworth, Boston, Mass.

will begin to solve our labor problem as a whole, then we will begin to develop a better spirit among our own people.

This Mr. Toastmaster, is the thought I want to leave with you. As I started with an allusion to Central Europe, let me close with one. I was told yesterday by telephone for some reason unknown to me, that I was to speak here tonight, and in the short space of time intervening, twenty-four or thirty-six hours, I have not as I should liked to have done, prepared, so I would not appear before you with this rambling talk. I could offer as an excuse, an exceedingly busy life, but in doing so I would be in the position which Count Bismarck, the son of the Iron Chancellor was in. He was sent to Italy on a diplomatic mission. He was to see the Pope on a very delicate matter. He arrived in Rome and went to his hotel, and when the hour of his audience came, a Cardinal by request of the Pope went to the hotel to pay the Pope's respects to the Count and take him to the Papal palace. The Count came down to the street where the Papal carriage was waiting, and proceeded to enter the carriage unconscious of the fact that a Cardinal was of superior rank and must precede a mere Count. The Cardinal calmly pushed him aside and entered the carriage, when the Count rose to his full height, threw out his chest and said, "Monsignor Cardinal, you seem to forget I am Count Albert Bismarck." With much suaveness, the Cardinal replied, "That explains it, my dear Count, but does not excuse it." (Applause.)



Toastmaster Hammond: Much has been said of Boston, and we are glad now that Boston did it, and let Mr. Alexander come to us. We thank you, Mr. Alexander. This is a lesson which we will carry with us, a message which is fraught with great value. "The Great Adventure." "I count life just the stuff to try the soul's strength on, educe the man," is the next toast, and the name after it is one with which many of us are familiar. Mr. Franklin H. Wentworth, secretary of the National Fire Protection Association, of Boston, Mass. I presume he is to speak of fire, and I trust the fire will not scorch the heart and soul, but we will hear what he has to say. Mr. Franklin H. Wentworth.

### THE GREAT ADVENTURE.

Franklin H. Wentworth, Boston, Mass.

"I count life just the stuff to try the soul's strength on, educe the man."

Mr. Toastmaster, Ladies and Gentlemen—I wish I might tell you the pleasure it has given me to listen to this speech from my good Bostonian friend, so logical, so clear, so able, and so convincing. It gives me pleasure to know that a Bostonian can live four months in New York and make a speech like that. In Boston, you know, we do not consider New York a place to live, we consider it a disease, and if any of you have gone down in New York's subway at the rush hour, you will know what I mean.

A friend of mine at the Author's Club the other day declared that the intellectual life in Boston is no longer possible. It was a radical statement but not a comforting one; not comforting to me. For I was secretly aware that under the embarrassing shadow of the Boston intellectual tradition I was to appear and speak before this distinguished company tonight. A gentleman of the party contributed the opinion that my friend was no longer a competent critic of the intellectual life; that his critical faculties had been atrophied by a too continuous reading of the Boston Transcript in which no new idea had appeared since the Civil War. While admitting the possibility of such personal misfortune the company was unanimously of the belief that my friend had not done sufficient justice to Boston; that Boston herself challenged and merited unbounded admiration simply for remaining Boston. Only a once original and powerful intellectual strain, a little aloof and sheltered from the great main currents of life, could have maintained successfully for so long its once deserved reputation. Boston has had ample temptation any time during the last half century to become something quite other than Boston. Dublin, for example, or Cork. Nobody unfamiliar with our Back Bay population can hazard a guess at the devastating effect of the Celtic influence upon an unimaginative mind. While England may in point be a conspicuous example she had not yet learned what Boston has learned: that the Irish are quite capable not only of governing themselves, but are capable of governing others. Our polite and complacent Boston has been successfully governed by the Irish for thirty years.

Our local official life, being therefore what we might call Celtic, impresses upon our surviving native population those elements of humor, poetry and picturesque language so distressful to a static and completed civilization. The integrity of our language and its accepted and dignified meanings suffer especially from this Celtic invasion. For example, if in the remote days when Boston policemen were properly sympathetic with human frailty, and needed to be; away back in 1918 B. C. (before Coolidge) you should have happened to be out very late, say at half-past nine or ten o'clock, and be passing the gate of City Hall, you might have encountered two members of our official family conversing like this: "Mike, you're drunk!" Mike: "You lie, Casey. If I wor sober you wudden't dare say that to me." Casey: "Begor, if you wor sober you'd have sinse enough to know that you're drunk!" Can conservative Boston, I ask you, see any chance for the survival of Anglo-Saxon culture in the fact of such onslaughts as this?

But speaking seriously, was there not something in the mind of my friend which was not at all related to Boston; which had to do not with his environment but with his own personal thought and action; which would have asserted itself with equal insistence had he lived in New York or San Francisco?

We are living in an age that submerges the individual; an age in which the life of far resonant action is almost impossible. Where shall we look for the life of adventure; the life

that shall lift us out of the common; the life that shall give us the individual dignity and distinction we require to convince ourselves that earthly existence is worth while? In an age of machinery the life of physical adventure is difficult. Exploits in the air still contribute an element of novelty but on the earth itself is left scarcely a nook or cranny in which one can not pick up a tin can. Are we passing then definitely out of the era of adventurous personal physical accomplishment?

Shall we find it still in war? I saw in the window of a book shop recently the sign, "All war books at twenty-five cents on the dollar." We are sick of war and books about war, and armies and books about armies. There is no personal distinction to be won in modern warfare. The age of chivalry was dramatic and picturesque but the age of the machine gun is cheap and sordid. Modern war is a slaughter house, a thing of rats and slime and vermin; we cannot even think of it without nausea.

Shall we find it in writing? The flood of books is submerging life here, also. We can easily find a man who has written a book. Our search is for the man who has time to read one. We are suffering from a bewildering sense of literary inundation. We are being smothered under tons of paper pulp.

Shall we find it in art? At least here is a field that will never be overcrowded: The domain which sets no bounds to the creative instinct; the avenue of the endless liberation of the human spirit. And we may also at least find comfort in the fact that this is the avenue from which no one need be excluded, for the commonest man or woman may seek its inspiration and enjoy its consolations.

We must perhaps admit the fact that the disappearance of opportunity for distinguished physical adventure may leave a large number of men of this generation hopelessly stranded. But the world cannot be held back for them. If the race is to achieve spiritual and intellectual distinction before the sun burns out and the world becomes cold and dead like the moon we must begin to develop a civilization that will produce these attributes in the masses. "Better," said John Stuart Mill, "be a Socrates dissatisfied, than a pig satisfied." But what we should seek is to get rid of the pig altogether. A pig will have the aspirations of a pig; and what we are seeking is a life of intellectual and spiritual intent. We admit that the finest elements of such a life may never be registered in physical achievement, but as a test of manhood it may be lived as successfully in the business world as in the cloister. There is no such thing as failure in it so long as what we aim at is worthy of our powers, but unless we are seeking beauty in some one of its countless forms, tangible or intangible, we cannot justify our lives to ourselves. For an appreciation of beauty, physical and spiritual, is what distinguishes us from the brutes. The exquisite architectural proportions of a majestic cathedral; the radiant colors of the sunset; the sense of that beauty which resides in the thought of reliability and strength; all these were latent in the mind which first conceived the idea of a common brick. Life springs on restless feet from the foundations we lay for her. Her feet are in the clay. The basis of life must therefore be material. But it need not in consequence be sordid. We can lay every brick as we lay a cornerstone—as the embodiment of an idea. Every step toward the efficient organization of production; every standardization of materials making for greater utility and beauty of form, releases to that extent, to higher issues, the energies of man. This is the Great Adventure; to fit our individual lives into the structure of a righteous social order, and to do it consciously with the purpose of building and sustaining by our loves and hopes an ongoing world, a world moving toward justice and equity and brotherhood and peace. We are the builders of the future. The world is merely raw material yielding to the impress of our hands. We can build any sort of world we collectively desire. The welfare of countless millions to follow us hangs upon what we are individually and collectively thinking and doing today; upon what sort of a world we are aiming at.

And let us not feel that in our efforts to improve the machinery of life for those who are to follow us we are in any way sacrificing ourselves. The gain to us is in the use of our faculties. The joy of creation; the bringing of things to pass; the growth of a nebulous idea into an accomplished fact, is the proper sphere of man. And so in our common struggle for food, clothing and shelter let us try to keep alive our pride of workmanship; not to please others, but to please ourselves; to give us that happiness which comes from within and which, therefore, the world cannot take away. Every job, however insignificant, if it is well done trains and strengthens our moral muscles. The Great Adventure of life is not a



single act, although a single act may dramatize it and reveal it to the world. The Great Adventure is a process; the process of building; of laying every brick in the edifice of life so surely that no sudden storm can bring it tumbling about our ears. It is a silent process that no other living man may see and touch and yet one which secretly influences every life we intimately encounter. Time alone must be the test of our developing and enduring strength. The world still looks backward for inspiration to the dauntless men who built too well to be submerged in the shadows of their generation.

One day in the sixteenth century, at Rome, a body of men, calling themselves Inquisitors, claiming to derive infallibility direct from God himself, had met to decree the immobility of the earth. A prisoner stood before them. His brow was illuminated by genius. He had outstripped time and mankind and revealed the secret of a world. It was Galileo. The old man shook his bald and venerable head. His soul revolted at the absurd violence of those who sought to force him to deny the truth revealed to him by God. But his energy was worn down by long suffering and sorrow. The monkish menace crushed him. He strove to submit. He raised his hand, he, too, to declare that the earth did not move. But as he raised his hand he raised his weary eyes to that heaven they had searched throughout the long nights to read thereon one line of universal law; they encountered a ray of the sun he knew so well motionless amid the whirling spheres. Remorse entered his heart and an involuntary cry burst from the believer's soul. "It moves," he cried, "it moves." And yet it moves. Four centuries have passed away. Inquisition, inquisitors, absurd theses imposed by force, all these have disappeared. Naught remains but the well-established movement of the earth; and the sublime cry of Galileo floating above the ages. (Applause.)

Toastmaster Hammond: Ladies and Gentlemen, we are to be congratulated that Boston sent us another speaker. The next is "Old Time Favorites," by Mr. George A. Parry, also of Boston. "God sent his singers upon earth, with songs of gladness and of mirth." Mr. Parry is a brick manufacturer and a sweet singer of New England. (Applause.)

Mr. George A. Parry: Mr. Toastmaster, ladies and gentlemen, I am always willing to respond to my name, but at this time I am going to follow the lead of our Mr. Schlake, and "pass the buck." Although it is true my name is on the program, the printer made a mistake. My twin brother was to make this speech, or sing a song, so I am going to pass it on where it belongs.

The song leader of the evening, James Scotti Frostick, of New York, favored the audience with a selection.

Toastmaster Hammond: "The Gold Brick," "All is not gold that glitters." Teddy, what do you mean? The Reverend Dr. James B. Wasson of New York is to respond to this toast. I am sure the Doctor will throw no brick, and it is my pleasure to introduce him at this time. He is director and chaplain of the Strangers' Welfare Fellowship of New York.

#### "BEWARE THE GOLD BRICK."

Rev. Dr. James B. Wasson, New York, N. Y.

"All is not gold that glitters."

Mr. Toastmaster, ladies and gentlemen—I first wish to ask those of you who received the booklets tonight if you will be good enough to take them to your homes and read them at your leisure and see just what the work is that is being done by the Strangers' Welfare Fellowship of New York, because you will see that really that work ought to be more interesting to people living outside of New York than it is to those living in the city, because we are helping those of your own people from the different parts of the country when they come to live in New York, to do their best in their new environment. So I will be glad to have you read this book and have you direct those from your neighborhood whom you know are coming to New York to live to come to me, that they may receive their welfare work and adjust themselves as soon as possible to their life in the great metropolis.

Some one has said that a brick is just a lump of earth baked in an oven. But this gathering tonight shows what civilization has done with those apparently insignificant lumps of earth. You gentlemen don't need to erect any formal monuments to your craft. For your monuments are already erected in every civilized land; and the records of your handiwork are writ in the story of mankind beginning with the cuneiform

bricks of ancient Egypt and ending in our day with the mammoth skyscrapers of our own land. You have verily done marvels with those little lumps of earth.

You have met here in this great convention to review what you have done during the past year and to consider how best to meet the problems of the future. We are facing the tremendous aftermath of the great war in which are involved social, economic, industrial and moral questions such as never before confronted the world. It is for us to answer those questions and solve those problems in such a way as to promote the welfare and happiness of the world; and you gentlemen with your little lumps of earth have an important part to play in this work of world betterment.

Man is an animated human pendulum, catching as he swings some of the nobler ideals of his day, but also inevitably some of its falsehoods and half truths. At one moment he swings to the easy tolerance, if not approval, of vice; and at the next moment he swings to the hard intolerance of virtue. Or else he vacillates between following the optimist who looks into the darkness and sees a light that is not there, or the pessimist who comes along and blows the light out.

In the 19th century we worshipped the ideal of individualism, which in its extreme form divided people into three classes, the rich and prosperous, the poor and needy, and the great middle class, the little brothers of the rich, who hoped some day to become rich themselves. It was an evil system because it ignored the fact of brotherhood, its motto being,



George A. Parry, Boston, Mass.

"Get all you can without running up against the law, and the devil take the hindmost."

But just as evil is the other extreme of the human pendulum advocated today, in which we are told by certain reformers and revolutionary teachers that we can throw overboard the old ideas of discipline, self denial and hard work, and at the same time reap the rewards that come from these old time virtues. What the world needs today is to beware of this industrial gold brick which is being handed to us, and to realize that there is no easy road to Eden or Utopia; for by no possibility will we ever succeed in lifting ourselves up by tugging at our own bootstraps.

Some day, of course, and I hope soon, the pendulum will swing the other way and we will realize that many of the all-knowin gentlemen who are so complacently taking our civilization to pieces, can't put it together again so that it will tick. When that time comes a multitude of half-baked reformers who are yelling at us to adopt their panaceas will find themselves out of a job, and will have to take a trip down the river of regret which flows through the flowerless land of unrealized dreams on to the ocean of oblivion.

It has been said that Democracy is a ship load of monkeys on a dark night in a stormy sea. Without subscribing to that very cynical view, we have learned by bitter experience that a democracy is no better than the people who maintain it. It is not self acting but in point of fact requires more time and knowledge on the part of the individual than any other form of government.



To democracy is set the task of rebuilding a new and up-to-date edifice of civilization out of the materials of the old civilization, without seriously disturbing the inhabitants, a feat that requires almost superhuman wisdom. You and I are the rebuilders of this edifice; and if we are to succeed we must have faith as well as wisdom, faith to believe that the achievements of the best men and women in all ages cannot safely be ignored, and that we cannot without danger fling aside the accumulated experience of mankind at the command of some glib tongued soap box orator.

And yet on the other hand we cannot ignore the idealisms or even the dreams which look to the establishment of sweeter manners, purer laws; for after all the right realization of our dreams is the true measure of human progress, though so often, alas, the dream may be marred by some very human infirmity. The socialist is unsocial, the prohibitionist is intemperate and the pacifist is truculent.

Perhaps you get discouraged and say it is impossible to realize a democracy under these hard conditions. But it is fatal to all progress to dwell too much on life's seeming impossibilities. I have noticed that the Lord always seems to take special care of the man who in his colossal ignorance thinks that an impossible job can be done and then goes ahead and does it. We have to work with and on human beings who are just casual insects, not good enough for heaven nor bad enough for hell. And the task of democracy is to bring about the greatest possible degree of happiness for the largest number of people in the best possible way.

Man never is but always to be blest. Our Golden Age is not behind but before us. And so preacherlike I take a text, "We have here no continuing city." Upon us all lies the solemn obligation to be and do our very best in the allotted days of our life.

They are not long, the triumphs and the glories  
Of life's brief span;  
Forgotten soon will be the proudest stories  
Of puny man.

They are not long, the weeping and the laughter,  
Love and desire and hate.  
I think they have no portion in us after  
We pass the gate.

They are not long, the days of wine and roses.  
Out of a misty dream  
Our path emerges for a while, then closes  
Within a dream. (Applause.)

Toastmaster Hammond: May the time soon return to us when the voice of the preacher will be heard in the land, when his voice shall set forth the rectitude of life, and thus it shall be known he is doing the work of the Master in the hearts of men for Christianity and the life of man, and may this brotherhood dominate mankind. "Our Industry," "Build on and make the castles high and fair, rising and reaching upward to the skies," will be responded to by W. E. Dunwody, of Macon, Ga., President of the National Brick Manufacturers' Association. (Applause.)

#### "OUR INDUSTRY."

W. E. Dunwody, Macon, Ga.

"Build on and make the castles high and fair, rising and reaching upward to the skies."

Mr. Toastmaster, Ladies and Gentlemen: This is a very high sounding topic for me to discuss, and inasmuch as it has been discussed by every speaker since we reached New York, you can readily understand I cannot expect to do it justice in a short period of time. Notwithstanding the lateness of the hour, you must all get comfortable, make yourself absolutely comfortable and give me your strict attention. It is a big subject and will take me some time. I see some disappointment on the faces of my audience.

I had wired Mr. Randall I positively would not undertake to respond to this toast. I think I can explain my feeling more fully and to the point by relating the experience of a pastor in the state of Georgia. It is appropriate I should relate this experience of a preacher as I am following one. This other preacher had been accused of trapping rabbits on Sunday, and he was brought up before a conference. The moderator said, "Brother Jones", it becomes my painful duty to question you on this subject; and after considerable questioning the pastor was exonerated. His statement was this: That passing along

the road he heard this poor little rabbit crying on Sunday morning in great distress and on investigating found he was caught in the trap and he thought it was his duty to take him out. The explanation was satisfactory and the pastor started to leave the meeting. Just as he reached the door the moderator said, "Brother Jones, when you took that rabbit out of the trap, did you reset that trap?" "Well, I just barely did reset it." (Laughter). That is just the way Brother Randall had me. I thought I was out, but when I got here and began to discuss the business conditions with my fellow craftsmen I began to be anxious about this situation. It reminds me of an incident in the Chamber of Commerce. At their monthly meeting they appointed a committee to request one of our attorneys to speak. On investigation the lawyer found that the committee was composed of a newspaper man, a florist and a doctor. You know these corporation lawyers are always up to snuff; he said that the personnel of the committee was rather suggestive. "Here is a newspaper man; he sells space for obituaries, the florist furnishes the flowers and the doctor sometimes furnishes the corpse. All you lack is the undertaker." So I began to feel a little anxious myself in regard to our industry, but after hearing the splendid speeches of the other speakers I became much more cheerful as to the situation. We have one of the greatest of all industries, one of our speakers has spoken of it with the remark that brick was used centuries ago, at the dawn of civilization. We have done much, but there is much more to be done and we have only scratched the surface. That sounds rather discouraging in the experience of 5,000 years in the manufacture of brick, but it is really encouraging for this reason, that by how much we have failed to develop the industry in the past, by so much shall we be able to do in the future. We are drawing to the close of one of the most successful conventions we have ever had. I think every man who has had an opportunity of hearing the papers read at this convention feels fully and amply repaid.

Let me close by asking that every man take this thought home with him, realizing that each one should have a part in the development of our industry, let us do our part as a duty and a pleasure more than for personal gain, realizing that "He profits most who serves best." (Loud Applause.)

Toastmaster Hammond: We are just getting acquainted, and with my permission George Parry may sing "We won't go home until morning" 'cause we are all good fellows, and I know you will all agree, but it is up to you. It is the desire that Mrs. Wasson, wife of Dr. Wasson, speak to you on a subject near to her heart. (Applause.)

Mrs. James B. Wasson, New York, N. Y.: Mr. Toastmaster, ladies and gentlemen, I am afraid I have undertaken more than I can do. I have never stood up before an audience and spoken before but I appreciate your hospitality so much that I felt like I must speak, but I am terribly frightened. I was so delighted to know I was remembered, and you were so hospitable to invite us both to your banquet the last time you were here. I felt like I was a brickmaker and I tried to enjoy myself and help others have a good time, and two or three said to me, "You are not a bit like a clergyman's wife," and I was worried that these people should go away and have a poor opinion of a clergyman's wife. I went to a friend of mine, a clergyman, and told him that I was worried. He wanted to know what I had done that was not like a clergyman's wife. "Well, you danced. What was wrong about dancing?" "That was not like a clergyman's wife." The clergyman said. "You go home and continue not to be like a clergyman's wife, and you will be all right. Just be human." So I have been trying to be human, and have been trying to be more like a clergyman's wife. But I do want to thank you for remembering me, and when Dr. Wasson told me that Mr. Randall said, "Bring Mrs. Wasson," I was happy and said, "After all I did not disgrace myself," and he said, "Mr. and Mrs. Burton wanted to be remembered to you," and I felt mighty good and so I wanted to thank you all for your kindness. (Applause.)

Toastmaster Hammond: I want to assure Mrs. Wasson that whenever the Association returns to New York for another convention she will always be remembered with great kindness. I want to say speaking as a New Yorker, one of the things I would like to say about New York, because as I told you at the opening session, we of New York love New York. You love your homes too, but you are all a part of

(Continued on page 398.)





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

#### MANUFACTURE OF HOLLOW TILE IN SOUTH AMERICA.

Editor The Clay-Worker:

We are contemplating the manufacture of hollow tile on our properties in Paraguay, S. A., and in connection with this, are extremely anxious to obtain detailed information regarding the most economical process of manufacture especially the proper type of kilns for burning the tile.

We will very much appreciate it if you will furnish us any information which may be in your possession or possibly put us in touch with the proper parties who can furnish the necessary equipment.

Thanking you for your courtesy in the matter, we are,

Yours very truly,

New York, N. Y. THE INTERNATIONAL PRODUCTS CO.

M. Fried, Purchasing Agent.

#### NOTES WITH SATISFACTION CONTINUED SUCCESS OF THE N. B. M. A.

My Dear Randall:

I am enclosing herewith my check in payment of membership dues in The National Brick Manufacturers' Association for the year 1921.

I regret exceedingly my inability to be present at this annual meeting. As heretofore explained to you engagements entered into in keeping with plans arranged a long time before the date of the meeting in New York was determined, prevented my attending.

I have noted with satisfaction the success of the National meeting and trust that every reoccurring convention will exceed in importance and benefit, the meetings which have been held in the past and that means a lot.

With very best wishes, I am,

Yours very truly,

Cleveland, Ohio.

WILL P. BLAIR.

#### CLAYWORKERS MANIFESTED DEEP INTEREST IN CONVENTION.

My Dear Mr. Randall:

In reply to your letter of March 11th we are glad to know that the name of the Clinton Metallic Paint Company has been added to the membership list of the National Brick Manufacturers' Association.

I had the pleasure of attending the recent convention at the Pennsylvania Hotel, New York City, which was a great success and I do not hesitate to say that all present went away knowing something had been accomplished and they had been benefited by the meeting.

The interest manifested by the clayworkers clearly shows that they are progressive and alert for new ideas whereby their products can be advantageously used in building construction. The many advantages in Building With Brick were clearly demonstrated.

The majority of the members are familiar with the reason for our interest in this association, namely that we man-

ufacture color used in clay for making brick, when the clay itself does not burn to the desired brick color, also that we manufacture Mortar Colors, the use of which greatly enhances the beauty of the brick and the appearance of the completed structure.

I can assure you that I shall not willingly miss any such meetings held in the future. It was a pleasure to meet so many old friends and the executive committee are to be congratulated on their efforts and success.

Yours very truly,

Clinton, N. Y.

F. O. ROBERTS.

#### SOUTH CAROLINA BRICK MAN BACK ON THE JOB.

My Dear Randall:

I have just returned to my desk after a forced idleness of ten weeks, the majority of which was spent lying in bed counting the cracks in the ceiling. It seems to have been a bad spring for the brick men in the Southern division. John Key has "gone West"; Sibley had five weeks with appendicitis and I started to push up the daisies, if I had not had a return call. I want to thank you for the letters received during my absence and also for the reprints.

We have started the plant making rough texture again, although the demand really does not warrant any large output. We have a number of fine prospects scattered throughout the country, some of which we trust will materialize very shortly. In the meantime, we are making a new record by shipping brick from here to Boston. With best regards to yourself and family, I remain,

Yours sincerely,

J. A. RYTTEBERG.

Sumter, S. C.

President.

#### ILLINOIS CLAYWORKERS ADOPT MEASURE TO SUPPORT THE CLAY SCHOOL OF THE STATE UNIVERSITY.

Editor The Clay-Worker:

Have read with much interest the story of our meeting in Chicago in the convention issue of The Clay-Worker. I am sorry you could not remain for the dinner Wednesday, for it was well attended and there was much enthusiasm indicated in the matter of supporting the clay school at the Illinois State University.

President Kinley addressed the members and told of the difficulties confronting the university on account of lack of funds. Mr. F. W. Butterworth followed with a report for the committee of the association which recently visited the university and introduced the accompanying resolution which was adopted unanimously. Mr. Butterworth was appointed chairman of the Legislative Committee with power to add to the committee any members he saw fit. The committee has full power to appear before the Legislature and take whatever steps necessary to further the interest of the department of ceramic engineering.

I may also add that Douglas F. Stevens reported the work done in organizing the Heavy Clay Products Division of the American Ceramic Society which elicited much interest.

Very truly yours,

CULLEN W. PARMALEE, Secretary,

Urbana, Ill.

Illinois Clay Mfrs' Assn.

#### Resolution Adopted.

WHEREAS, after due consideration, we find, That the University of Illinois is in such financial condition that something must be done at once if it is to continue a first-class



institution and give the kind of service that the citizens of the state demand;

That the appropriation for the University for the current year is but eleven per cent larger than the appropriation of ten years ago, although in the meantime the student attendance has doubled, the demands upon the institution in many other respects have more than doubled, and the rise of prices has decreased the purchasing power of money by more than fifty per cent;

That the University has been obliged to reduce its faculty, to permit its equipment to run down, to abandon its building program, and to leave everything but the most necessary repairs untouched in order to live through the present biennium without a deficit; and

That the next step must be either adequate funds or a reduction both in the quality and the amount of work which the institution can undertake;

And whereas, the future development of the clay, glass, cement and other ceramic industries, together with their abil-

## WESTERN ONTARIO CLAYWORKERS MEET IN ANNUAL CONVENTION.

THE ANNUAL CONVENTION of the Western Ontario Clayworkers' Association was held in the Chamber of Commerce at Chatham, Ontario, March 1, 2 and 3. There was a good attendance as is indicated by the accompanying photograph of the delegates for which we are indebted to ex-president C. S. Parker, London, Ontario, who is chairman of the Permanent Fuel Committee, who writes that the convention was a great success from every view point. The number of machinery and supply men from the United States was the largest in the history of the Association and they proved able counsellors in many of the propositions that were considered on the convention floor and in the lobby talks.

A number of instructive papers touching on the operative end of the business were presented and discussed, and these



Delegates in Attendance at Western Ontario Clayworkers' Association Convention.

ity to reduce the cost of manufacture of building materials, is and must continue to be, largely dependent upon the research work of the ceramic departments of our educational institutions and upon a continuous supply of technically trained men (witness the fact that the demand for such men at the present time is fifteen times greater than the number which the University is training):

THEREFORE, BE IT RESOLVED, By the Illinois Clay Manufacturers' Association at its Forty-third Annual Meeting in Chicago, on March 8 and 9, 1921, that the Association endorses, without reservation, the program of the President and Trustees of the University of Illinois for increased appropriations for the ensuing biennium, believing that the appropriations recommended, amounting to \$5,250,000 per annum, are reasonable and necessary for the maintenance and advancement of the University.

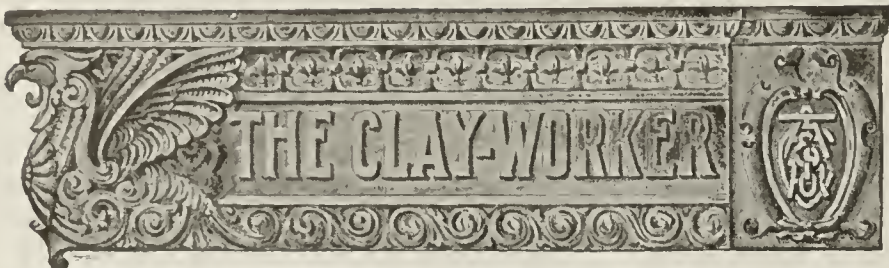
Even if your competitor is not as good a man as you think he ought to be it is better to have him with you than against you.

will be given in full in the columns of The Clay-Worker later on. One of the chief topics was The Fuel Question. Gas is being used by manufacturers in that section, and there is a movement on to increase the price to an unreasonable figure. It is hoped by united action to prevent this and to secure a rate that will enable brick manufacturers to continue to use gas as they have been doing.

The annual banquet proved very pleasing, a male quartette rendering popular songs in a manner that elicited much applause. President Wm. McCredie of Lyons, Ont., was the principal speaker. M. M. Maxwell, manager of the Chatham Chamber of Commerce presided as toastmaster and at the close of the banquet extended a cordial invitation to the association to hold its next convention in that city.

The election of officers resulted as follows: president, Alfred Wehlan, Cairo, Ont.; first vice-president, H. H. Hallett, Tillbury; second vice-president, R. T. McDonald of Brigden; third vice-president, J. E. Reid, Tillbury; secretary-treasurer, G. E. Armstrong, Fletcher, Ont.





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Vol. 75 MARCH 25, 1921 No. 4

CURRENT COMMENT.

The brick porch idea is blooming out again this spring.  
\* \* \*  
Finding solid ground for brick prices is a favorite outdoor sport today.  
\* \* \*  
Every time you gather with your fellow men in conference you should get some good out of it.  
\* \* \*  
The average man is not in a hurry for what he buys until after he buys it, then he wants it day before yesterday.  
\* \* \*  
The really good foreman or superintendent should be more concerned with his responsibilities than with asserting his authority.  
\* \* \*  
The thoughts of mankind just naturally turn to home building in the spring season and it is one of the impulses that should be encouraged and developed.  
\* \* \*  
Some folks say that they don't think being secretary to the President is any job for a Christian. Others think it takes a man with Christian fortitude to handle the job.  
\* \* \*  
The farmers have been on something of a buyers' strike so far as drain tile was concerned this spring but they will probably be in a better humor and ready to begin tiling earlier next fall.  
\* \* \*  
The experience meeting held at the N. B. M. A. annual on the subject of loading brick in cars and unloading was another reminder that a man is better off if he can sell brick

within his home territory and have control of the full delivery by motor truck.  
\* \* \*  
Build with brick signs are good reminders to have hung up about the landscape these days.  
\* \* \*  
Waiting until you get orders before starting up the brick plant may be playing safe but it is not progressive.  
\* \* \*  
Some fellow has sent a good slogan which is "More business in government, and less government in business."  
\* \* \*

Among the best congratulation are those that a brick yard superintendent hands himself when he sees a fine burn come off.  
\* \* \*  
We hear a cry to push production and push sales, but it leaves an interesting question of who is to push which and which is to be pushed first.  
\* \* \*  
Could there be a better endorsement of the motor truck for brick hauling than the admission that delivery used to be an expense and now it yields a profit.  
\* \* \*  
Somebody said at the convention that it is assumed a burn is good when the kiln shows hard brick down to about four courses from the bottom. Why not make the four courses hard too?  
\* \* \*  
Here is a paradox in the trade. People sort brick at the kiln to get them uniform as to color, then when a man with architectural ideas comes along he mixes them up again to get a distribution of color.  
\* \* \*

One good way to get a building boom is to help bring it on instead of sitting down and waiting for it. Do your part by having a good stock of stuff made up ready for use and distribute a goodly number of Build With Brick Signs.  
\* \* \*  
The railroad folks claim that sixty cents of every dollar they take in must go out for wages. Meantime the wage workers refuse to accept a wage cut gracefully, while the general public has to stand for everything. Someday the public may get tired and set down on both the manager and the workers of our railway systems.

THE POINT OF VIEW.

Whether things look good, bad or indifferent throughout the country at the present time depend considerably upon the condition and attitude of the one doing the looking. Those who are out of sorts see things to fret, trouble and worry about, while those who are feeling good see the better and brighter side of things, and so it goes. As compared to the rest of the world, and other periods in the history of the world, we are in mighty fine shape here right now and we should appreciate that fact and make the most of it.

BETTER MANAGEMENT.

There is noticeable now some organized and consistent interest in the subject of management education, that is, the education and training of men for industrial management. The idea is to work through and with colleges and get special training in creating the right perspective and viewpoint in man to perform effectively the task of industrial management. There is no doubt that we need to make a more systematic study of management both in its relation to men and to industry, but it is a whole lot easier to recognize this fact than



It is to set forth specific lines of study and training that will qualify men to manage better. The fact that effort is being directed at this speaks well for the future because interest in a problem always brings better understanding if not a real solution.

#### MUNICIPAL IMPROVEMENTS.

One of the good signs of the times is in the plans being reported for street and alley improvements among the towns and cities throughout the country. Good roads work, which is a big factor in industrial revival, is awakening a keener interest in streets and alleys and the undertaking of these improvements should assist materially in furnishing employment and keeping the wheels of industry moving during the readjustment period. Incidentally it should furnish opportunities for developing more trade in paving brick, but to get their share of this the paving brick people will have to stay on the job persistently because there is a disposition to use concrete for alleyways and asphalt for street surfacing, and such a busy advocacy of this on the part of those furnishing material that the paving brick people will have to keep hustling to get their share of merited trade.

#### SEWER PIPE ORDINANCES.

There seems to be a disposition among the drafters of city ordinances to discriminate against clay sewer pipe in favor of iron pipe for drains which threatens to increase the cost of home building without any corresponding advantage. We are told for example that in Ohio there is a type of legislation which restricts the use of clay products anywhere inside the building line. Reports of a hearing in Chicago on the same proposition brought figures indicating that excluding clay sewer pipe from house drainage in favor of iron pipe increases the cost of material alone about 35 per cent. Meantime both builders and architects contend that the clay sewer pipe gives entire satisfaction. There is no objection to people trying experiments if they desire to, but experiments and restricting ordinances are different things, and it behooves the clayworking industry to watch closely new revisions of building ordinances to protect both their interest and the welfare of the building public.

#### BUILDING CONTRACTING.

One of the handicaps to the progress of brick and tile in building operations has been the uncertainty as to cost, and the hesitancy about contractors developing this class of business. The majority of the early contractors have been carpenters or men trained in figuring wood work for home building, consequently they have a natural preference for figuring on contracts of that kind. Even at that lumber dealers have found it advisable in pushing their business to not only furnish plans, but often to figure out the total cost and in many cases to even go so far as to take on the contracting. There is more than a hint here to the brick making industry. They must stimulate contracting and contract figuring of homes and other structures built of brick and hollow tile. If they cannot induce brick layers and carpenters and contractors to willingly figure contracts of this kind, then it will be up to the brick man himself to do contract figuring, and perhaps in some instances to do the actual building to properly push his product. Already the industry is sending out in connection with plan books good data to assist in figuring contract details, and this should be followed up persistently, because in the final analysis it is the completed building rather than the building material which we sell. And since contracting is an important factor in completing the building the

industry should concern itself more with the matter of promoting contracting to build better and more permanent structure with brick and hollow building tile.

#### THE MATTER OF FUEL.

In normal times the coal year ends with the first of April and the operators of coal mines are ready and desirous of making contracts to run through the year. Up to the present writing some clayworkers who have sought a positive basis for coal prices during the summer have found mine operators unwilling to contract at current prices which they consider too low. There seems at this writing some hope for readjustment of mine wages and mine cost during April which may make easier the problem of fuel supply through the year. Meantime, however, both the buyers and the sellers of coal seem a little inclined to move cautiously and to postpone contracting until conditions have adjusted themselves or until we have passed into the new coal year and gotten far enough along to get some idea of what will be the actual mine cost of getting out coal. It is a time in which the clayworker should seek to form connections with dependable institutions furnishing a desirable quality of coal and be guided by advice and information obtained through repeated conferences on the subject.

#### THE TRADE OUTLOOK.

In the main the trade outlook for brick and hollow tile is pretty good and it can be made good if the trade can meet the situation properly and get the right percentage of brick and tile used in home building during the year. The big item in the building situation today is that of home building and to the extent the trade can promote the use of its product for better home building will depend the marketing prospects of the year. There is involved both the question of relative cost and merits, and while the industry cannot profit by selling below cost there is no question but what they should strive to reduce costs to the lowest practical points in order to encourage the use of a greater percentage of brick and hollow building tile during the year.

Building operations as a whole during the year will not likely attain a boom stage. They are making progress, however, and the progress in the use of brick and hollow tile should be greater than that of building if the builders can be made to see the advantages of the better building material, and that is the job that is up to the industry, to promote its own material on a fair basis at a fair price.

#### UNIFORM SHRINKAGE.

It matters not whether a man is making common brick, face brick, hollow tile or any one of a multitude of clay products, some attention should be given to the matter of uniform shrinkage in the process of drying and burning. This is more important in some products than in others, but it is more important to the industry as a whole than we have seemed to realize so far. The maintenance of positive standards and dependable shapes hinges largely on uniformity in shrinkage. Uniformity in shrinkage can be obtained through uniformity in firing and a uniform mixture of clay and shale out of which the product is made. Some day we will come to a time when a proper balanced mixture will be considered the first essential to good work in making all clay products. Most everybody will agree this is the future goal. The trouble is, we look on it as something in the distant future and don't make enough immediate effort to attain it. The time is here now when we need to give a little more immediate attention to this subject and strive to get that uniformity in shrinkage that will make it practical to develop unity in size and shapes of the finished ware.



### NOTED PHILADELPHIAN RECUPERATING IN FLORIDA.

Dr. C. B. Thwing, president of the Thwing Instrument Co., Philadelphia, Pa., is spending a month with his brother, F. H. Thwing, of Orlando, Fla., and enjoying a much needed rest.

### BACK IN HARNESS AFTER SERIOUS ILLNESS.

Warren W. Ittner, the energetic secretary and general manager of the General Clay Products Company, of St. Louis, who was confined to the hospital for a number of weeks with serious throat trouble, thereby missing the National convention, is again looking after business, but still having to take things easy.

### N. B. M. A. TREASURER SIBLEY FULLY RECOVERED.

The many friends of John W. Sibley, Birmingham, Ala., the popular treasurer of the National Brick Manufacturers' Association, will be pleased to know that "Massa" John has about fully recovered from the operation for appendicitis which occurred just at a time to keep him from attending the National convention in New York. Sometimes an enforced rest is beneficial, and it is sincerely hoped that it is true in this case and that John is through with doctors and hospitals for many, many years to come.

### SONS LOOK AFTER BUSINESS WHILE FATHERS ENJOY VACATION.

The Clipperts, George and Charlie, are both getting ready for a busy season by taking well earned vacations. Immediately following the New York convention, George H. joined Mrs. Clippert and their daughters at Hot Springs, Ark., and later went to California where they will remain for some time. Charles and his wife recently left for an ocean trip, and expect to visit the Bermudas and Panama. Business is being looked after during their absence by their sons, Harry and Conrad, both "worthy sons of noble sires."

### TRADE LITERATURE.

A One Man Excavator for Clay, Sand and Gravel Pits is the title of the latest bulletin issued to the trade by the Bay City Dredge Works, Bay City, Mich. This details the passing of the pick and shovel in clay pits due to the disposition of the manufacturers to substitute labor saving machinery for hand labor. It is no longer necessary for even the small operators to depend on the slow, uncertain and production-hindering factor of hand labor since the Bay City Dredge Works, for years builders and developers of land dredging machinery, have perfected an excavator and loader, especially designed for the average brick or tile plant.

The contents of the leaflet contain especially interesting information to the operator of a plant, the capacity of which does not warrant the purchase of heavy, high priced excavators or to the owner of a first class, highly centralized and efficient plant which is slowed down by uncertainty and irregularity of material from the pit, due to an unreliable system of hand labor. The bulletin is attractively illustrated and presents many letters from well known firms highly recommending the Bay City excavator.

Bulletin No. 10 of the Lancaster Iron Works, Lancaster, Pa., is a twelve page insert for filing, giving detailed information on their Arnold Creager S. S. S. Special Automatic Brick Machine, (showing the old obsolete way and the new in pictures), their Style "A" "Martin" machine, their "Martin" Style "B" horse driven brick machine, their "Grand Automatic" Jun-

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ior Outfit, "Grand Automatic" Senior Type and their "Favorite" Horse-power Brick Machine. Those desiring copy of this important bulletin can secure same by writing Lancaster Iron Works, Lancaster, Pa.

The Thwing Instrument Co., Philadelphia, Pa., recently mailed us a very elaborate copyrighted booklet containing much valuable data and information relative to Thwing High-resistance thermo-electric pyrometers, indicating and single and multiple recording types.

A few of the reasons why pyrometers should be used for temperature regulation are given in the front of the booklet. Other articles on Protecting tubes for Thwing Thermocouples, Thwing Multiple-Record High Resistance Recorders, Indicating Galvanometers for Thwing Pyrometers are finely illustrated. In the introduction the following convincing statement is made: The success of the Thwing Instruments, aside from their scientific development and accuracy, lies in their ability to withstand rough treatment and do good work in the hands of ordinary mechanics, rather than requiring care by technical experts.

### CANADIAN SALES AGENCY FOR LAKEWOOD.

The Lakewood Engineering Company, Cleveland, announces the appointment of Kelly Powell Limited, 403 McArthur Building, Winnipeg, Canada, as agents for the Province of Manitoba, Saskatchewan, Alberta, and Western Ontario, for the sale of Lakewood paving, construction, and industrial equipment.

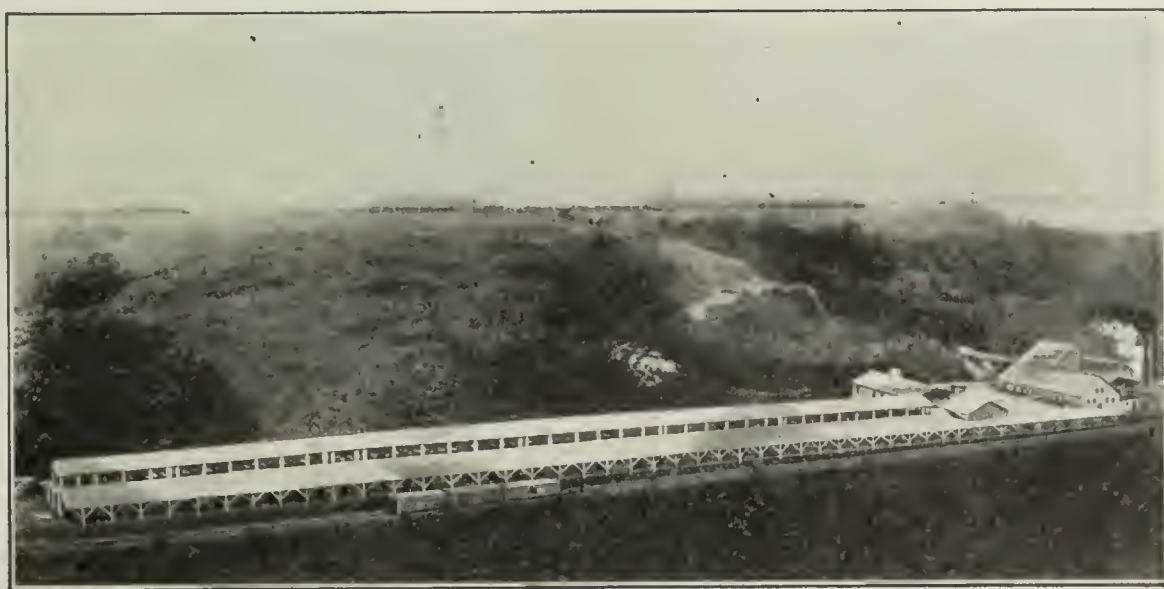


**Coal Used?**  
**1250 lbs. OR 480 lbs.**  
**Per Thousand**  
**BRICKS**

Why Use 1250 lbs. of Coal Where 480 Will Do?

## SAVING TIME IS HERE

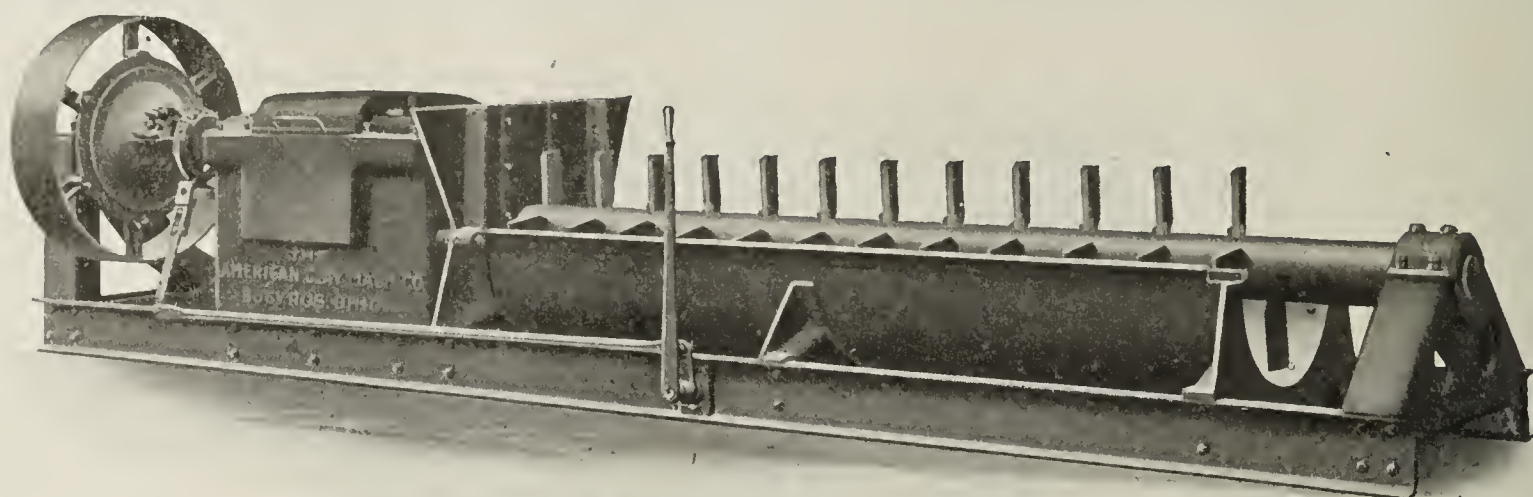
Saving time is here. The era of saving must come now to avoid future difficulty. If we save on labor why not in other ways? To waste on fuel and then lower labor costs doesn't sound good. It shouldn't be. We owe it to the general plan of saving to save on fuel where possible. The Haigh Kiln and American Waste Heat Dryer are sure to save at least a half of your fuel costs. Let us take up this matter of fuel saving with you. We are sure it will prove interesting and either now or later you will want the information.



**The Hadfield-Penfield Steel Co.**  
**Bucyrus, Ohio**

Formerly The American Clay Machinery Co.





**American No. 354 Granulator**

A granulator is usually desirable because of the advisability for thorough preparation and that requires a special attention to design and construction which will do the work thoroughly and well. In our American No. 354 Granulator we have one of the best Granulators ever built. In strength, simplicity, light running and capacity you will find this machine without a superior. Ask for our No. 354 Bulletin.

**The Hadfield-Penfield Steel Co., Bucyrus, Ohio**

Formerly The American Clay Machinery Co.

## THE AMERICAN GASOLINE LOCOMOTIVE

The American Gasoline Locomotive is simplifying and cheapening the clay haulage problem of Clayworkers everywhere. In Okmulgee, Oklahoma, it has taken the place of motor trucks, doing the work better and cheaper. In this plant it is hauling two cars of  $2\frac{1}{2}$  yards each over 2000 feet of track on a grade ranging from 5 to  $7\frac{1}{2}$  per cent. That's service. No trouble with repairs either. Write for catalog.



**American Gasoline Locomotive**

**THE HADFIELD-PENFIELD STEEL CO.**

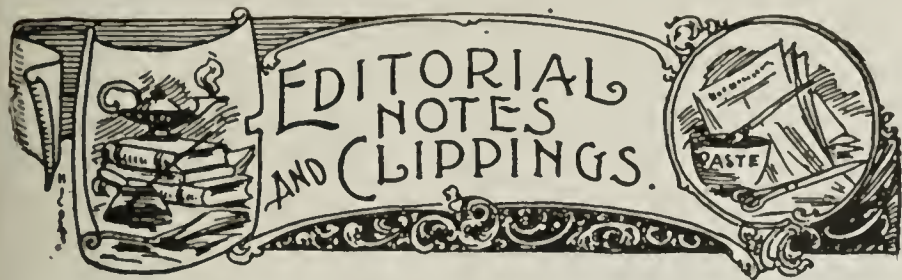
**BUCYRUS**

**OHIO**



**Locomotive Sales Dept... 404 Hippodrome Bldg... Cleveland, Ohio..**





David J. Beem of Spencer, Ind., writes that he expects to erect a small face brick plant at that place this spring.

The Bolivar Clay Products Company has been incorporated at Wilmington, Del., with \$100,000 capital stock by R. L. Croteau, M. A. Bruce and S. E. Dill.

H. S. Greene formerly of the National Carbon Co., Aurora, Ill., was recently elected vice-president and sales manager of the Barber-Green Co., of Aurora, Ill.

Mr. Walter McKeen who for the past five years has been connected with The Burton-Townsend Company, was recently promoted to the position of Sales Manager of the Brick Department at Zanesville, Ohio.

Manufacturing was resumed March 15, at two of the various idle plants of the Baltimore Brick Co., Baltimore, Md., with 200 operatives employed. Other branches will increase production and others will resume.

W. B. Neher, of Scottsboro, Ala., is at the head of the Alabama Brick & Tile Company which is building a new building brick and drain tile plant at Decatur, Ala., where they have a very fine deposit of clay.

The Burton-Townsend Company has started their large Brick Plant No. 1 at Zanesville, Ohio, running principally on paving block, and will start their Brick Plant No. 3 at Ashtabula, Ohio, next month also manufacturing paving block.

W. W. Dickinson, Jr., general manager of the Arkansas Brick & Tile Co., Little Rock, Ark., writes that business is picking up some. They are making a price of \$12.50 at the plant, or \$15.00 on the job, which has helped to start things off.

The Tazewell Brick Co. has been organized at Pearisburg, Va., to take over the plant there and make necessary improvements. The officers of the company are president, C. L. King, Pearisburg; secretary-treasurer, R. S. Fry, Bluff City, and Geo. Shafer of Tip Top, manager.

E. W. Scott, president of the International Engineering & Equipment Company of San Antonio, Texas, writes that his company is in the market for second hand stiff mud brickmaking plant, including a 100-horsepower boiler. Interested parties should address the company direct.

Work has begun on the brick plant at the Idaho Clay Products Company's clay beds at Weiser, Idaho, according to an announcement. The articles of incorporation of the company have been filed at Boise, and following other preliminary work the construction of the plant will be started.

C. M. Daggett, president of the Horace Puriton Brick Co., Waterville, Me., writes they are now getting \$26.00 per 1,000 for water-struck brick, run of kiln, and for selected brick of a uniform color and size they get \$30.00. Their stock on hand is not very large and is all sold for spring delivery.

The Milton Brick Co., of Milton, Pa., has petitioned for a permit to cancel its charter. This company was originally a \$200,000 corporation, and the general business depression of recent years is the cause for the request. According to D. H. Miller, president of the company, the company will have a surplus of \$30,000 after all debts have been paid.

The Ross Clay Co. plant, Uhrichsville, Ohio, which has been closed down since December, will resume operations according to an announcement made Saturday. The plant was

shut down so repairs could be made. Another boiler was added to the equipment, making three boilers, each boiler has been equipped with a stoker. Other extensive repairs have been made to the plant.

The Gem City Pressed Brick Co., of Quincy, Ill., resumed operations March 1st, after having been shut down since the first of November, and is now running full time. Our good friend, John T. Hummert, secretary and manager of the company, states that he has booked enough good orders to keep the plant going for some time and the inquiries being received indicate an early resumption of building activities in that section.

A. R. Batley, general manager of the Paola Brick & Tile Company, Paola, Kans., writes that he regretted very much having to miss the National convention in New York, but having recently taken over the Paola plant, was too busy making extensive improvements in same to get away. He says prospects are very good with them, that they now have all the orders they can take care of and are turning out what the architects and contractors in that vicinity claim is the best building tile in Kansas.

The Medal Paving Brick Co., Cleveland, Ohio, has leased to the Collinwood Shale, Brick & Supply Co. its plant at St. Clair Avenue, N. E. and 168th Street, Collinwood, a suburb of Cleveland, for five years at \$65,000 a year for the first two years, \$75,000 for the next year, \$77,500 for the next year and \$100,000 for the next year. The lease contains an option to purchase the fee, with machinery and equipment, within a four-year period for \$320,000. The plant covers thirty acres. Spencer M. Duty is president of the Medal Paving Brick Co., which has large plants in Wooster, Malvern and Carrollton, Ohio.

After the annual meeting of stockholders of the Crescent Refractories Co., Curwensville, Pa., it was announced that the George S. Good Fire Brick Co. and the Clearfield Clayworking Co. had been consolidated with the company's properties. This merger unites three important fire-clay and coal holding concerns in Clearfield county. The output of the plants now operated amounts to 240,000 bricks a day and marks another forward step in the industry. James B. Graham, president of the Northern Central Trust Co., of Williamsport, Pa., has been elected president of the board of managers of the Crescent Refractories Co.

The Northern Refractories company, which established offices at Ridgway, Pa., last fall, has completed its organization, the officers consisting of Ives L. Harvey, J. Ellis Harvey, Bellefonte; E. Burke, Rochester, N. Y.; Judge Ellis Orvis, Bellefonte; B. E. Taylor, H. B. McCullough, Brockwayville, and M. P. Shanley, Ridgway. The company owns and will operate a tract of land of 650 acres at Hutchins, McKean county, the property also containing 400 acres of second growth paper and chemical wood, silica sand rock and for the time they will devote their attention to the marketing of coal and raw clay as it comes from the mines, ultimately erecting one of the finest brick plants in the northern portion of the state.

Notice that a nine-hour work day will be effective in thirty days, instead of the present eight-hour day was filed recently with the state industrial commission by the Colfax Pressed Brick Company, Denver, Colo. An announcement was made by the foreman to the employees the week previous that the change would be effective, March 7, on telegraphic orders of William B. Robinson, manager of the plant. The employees, numbering twenty brickmakers and yardmen, walked out and refused to return to work, meanwhile filing a protest with the industrial commission. An investigation by members of the commission resulted in the company withdrawing its order



and reinstating all the employes and then filing the customary notice required by the Colorado law that the change will become effective in thirty days.

The part of the plant of the Tucker Brick Company's plant at Kissimmee, Fla., which was destroyed by fire recently is being rebuilt at an approximate cost of \$15,000.

The Refractory Products Co., Wilmont, Va., recently organized with a capital of \$900,000, is planning to establish a local plant for the manufacture of fire brick, refractory linings, and kindred specialties.

A. Gallandt & Son have purchased the plant formerly operated by Tobias & Sheridan at Hamburg, Pa., and are putting the property in first class operating shape. The plant has not been operated since before the war.

W. B. Lahr, E. J. House, D. E. Warner and others of Cleveland, Ohio, have organized the Cottage Building & Mortgage Co., with a capital stock of \$200,000 for the purpose of furthering home building and the erection of apartment houses.

Michael, John and Thomas Sponzo, who have been operating the brickmaking plant of John Nevel of Hartford, Conn., under the firm name of the Sponzo Brick Company, have purchased the plant outright from Mr. Nevel and will make extensive improvements in same.

The General Ceramics Co., 50 Church Street, New York, will take bids early in April for an addition to its plant at Metuchen, N. J., to manufacture sanitary ware. It will be one and two stories, 165x785 ft., and is estimated to cost about \$400,000 with machinery. Dietrich Wortmann, 116 Lexington Avenue, New York, is the architect.

The Mahoning Shale Products Company of Cleveland, O., organized by John G. Litzel, E. R. Lawrence, J. A. Needing, W. W. Richman, and E. I. Cranes, has purchased the Carbon plant of the Liberty Clay Products Co., where they will manufacture fireproof partition tile, as soon as they have made the necessary improvements and changes in the plant.

The plant of the Logan Products Co., of Logan, Ohio, which was destroyed by fire in February is being rebuilt. The new plant will be of brick, fire proof throughout, and will be, when completed, one of the most complete sewer pipe plants in the country. J. J. Pfeiffer, president and H. C. Cole, manager of the company is in charge of the construction work, most of which is being done by the company's employes, thus affording them work during the rebuilding of the plant.

The Decatur Brick Manufacturing Company of Decatur, Ill., recently announced a cut of \$2.00 a thousand for common brick and \$3.00 per thousand on face brick, retroactive on orders back to March 1, and from \$7.00 to \$14.00 on hollow building tile. E. D. Mattes, the general manager of the company states they made the biggest reduction on the material most in demand with a view of helping stimulate building. This makes the price on common brick \$16.00 per thousand; face brick, \$19.00 to \$28.00 and hollow tile, \$45.00 and \$80.00, according to size.

The Provo (Idaho) Brick & Tile Company began its season's work March 1, with a large force of men who will operate the plant on a profit-sharing basis, according to officials of the company. The employes will receive practically 50 per cent. of the profits of the company after allowing 8 per cent. on the capital invested and the general expenses of running the business, it is reported. S. H. Belmont, president and general manager of the company, reports business outlook for the coming season looks very encouraging as the company already has many large orders. The company will begin at once to enlarge its plant by the construction of additional kilns and the erection of an artificial drying building 75 by

90 feet, two stories in height, which can be operated during the entire year.

The Jenkins Brick Co., Montgomery, Ala., is planning for the installation of new pulverizing and other machinery at its plant.

The Lick Run Coal and Clay Co., Nelsonville, Ohio, with \$200,000 capital stock, by M. R. McGill, P. J. Merz, M. A. Krieg, R. Green and N. E. Green.

The Phoenix Mineral Products Corporation has been incorporated at New York City with \$100,000 capital stock, by J. and A. Levy, and H. M. Johnson, to manufacture brick, tile and other clay products. The headquarters of the company is located at 26 Liberty St.

The bricklayers seem to be doing their part in the general effort to stimulate the building business. From all sections of the country come reports of the various bricklaying unions voluntarily offering a reduction in wages. Among those recently heard from is Detroit, Mich., Jackson, Miss., Omaha, Neb., Mobile, Ala., Tacoma, Wash., Streator, Ill.

#### SALMEN LUMBER PLANT BURNS.

Fritz Salmen, the well known brick man of Slidell, La., writes that their brick plant is still running on orders booked last year, and are getting a few new inquiries. The price is \$14.00 and \$15.00 f. o. b. cars at the yard. Early in the morning of March 16th, the big saw mill and lumber plant of the Salmen Brick & Lumber Company at Slidell was almost completely destroyed by fire. Notwithstanding the plant was heavily insured, the loss is quite heavy.

#### A HIGH FLYER.

Everyone who knows C. P. Mayer, of Bridgeville, Pa., one of the active ex-presidents of the N. B. M. A., knows he is progressive, not only keeping up with the procession in all things, but usually being just a step ahead, and will not be surprised to know that he has just placed an order for his third aeroplane. It is Mr. Mayer's purpose to use the aeroplanes in a business way utilizing them for quick trips both for business and pleasure. Indeed he is becoming quite an enthusiast on the subject and has plans well under way for an aviation field at Bridgeville. We are looking forward to the day when he will take breakfast with his family in Bridgeville and look in on The Clay-Worker in time to have lunch in Indianapolis.

#### WASHINGTON COMPANY SECURES BIG CONTRACTS.

The Denny-Renton Clay & Coal Co., with general offices in the Pioneer Building, Seattle, Wash., was recently awarded the contract for supplying clay conduit tile to be used in the construction of the Pacific Telephone & Telegraph Co.'s office building, that city. The order includes one, two, three, four and six-way sections of tile, and is one of the largest to have been awarded in this section for years. In the past, in practically every instance, ware of this nature has been purchased from Eastern manufacturers and shipped into this section of the country, but recently the Denny-Renton Co. made arrangements, including the installation of certain equipment, to manufacture this material at its sewer pipe plant at Taylor, Wash., and is now prepared to handle orders, both large and small, for this class of building ware. The Denny-Renton Co. was also recently awarded the contract for furnishing the architectural terra cotta to be used in the Cornish School of Music, and for furnishing paving brick to cover 10,000 yards of paving in Seattle. The terra cotta for the School of Music job is being manufactured at the company's city plant; the brick block is being taken from the accumulated stocks.



# HUM-MER *Electric* SCREEN



## Increases Output 20 to 400%!

Here is Actual Data Furnished by Prominent Manufacturers

### ON CEMENT

"With a combination of the HUM-MER Separator and the Hardinge Mill, we can grind from three to four times as much material as with ball mills, with less than twice the horse-power and to considerably better fineness.

"In analyzing the fine material from the HUM-MER, we find that it runs from 99½ to 100% minus 20 mesh."

CONTINENTAL PORTLAND CEMENT CO.

has been 343,000 lbs. of brick in a 9-hour day."

CLEVELAND BRICK & CLAY CO.

### ON COAL

"We estimated that these screens would have a capacity of about 25 tons an hour; but in many cases they have handled as much per hour as 110 tons of coal having as high as 10% moisture."

BETHLEHEM STEEL COMPANY.

### ON CLAY

"We feed 22 to 24 tons of blue shale through the HUM-MER per hour, getting an average of 18 tons of screening each hour. Our average output since installing this screen

### ON FELDSPAR

"It has not been possible for us to feed the HUM-MER to anywhere near or even to half capacity."

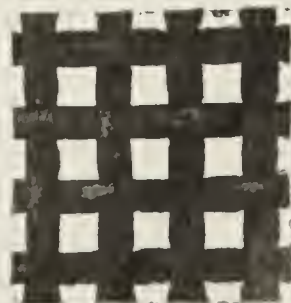
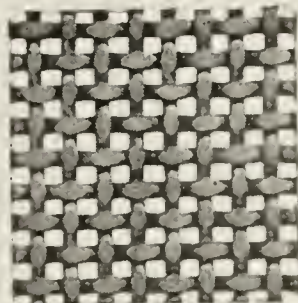
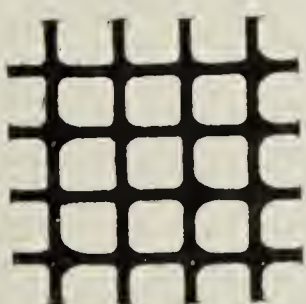
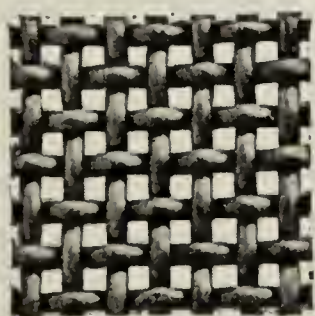
THE WHEELING PULVERIZING CO.

*Send us 50 lbs. of feed material and ½ lb. of the product desired, and we will demonstrate the advantages of the HUM-MER by actual test on your material.*

*Request HUM-MER Catalogue No. 42 W*

THE W. S. TYLER COMPANY, *Cleveland, Ohio*

Manufacturers of Woven Wire Screens and Screening Equipment





Written for THE CLAY-WORKER.

## PACIFIC COAST NEWS.



SOUTHERN CALIFORNIA is making efforts through the Riverside county chambers of commerce and the commercial clubs of Los Angeles to bring more clay products manufacturers to the vicinity so that the immense deposits of clays in the southern section of the state may be utilized. Several existing plants are preparing to make extensive enlargements to care for the already available trade and others are contemplating adding new lines to their products.

Construction has begun on the half million dollar chinaware plant of the Empire China Co. at Burbank. The Standard Pottery Co. has begun the manufacture of china and art pottery at its Los Angeles plant and several eastern potters have recently visited to investigate the opportunities for large scale manufacture of sanitary wares. Los Angeles has also made great strides in the development of high-resistance refractories within the last few months and although the chemical industries are asking for needed pottery, local manufacturers are refusing orders for terra cotta structural shapes because of inadequate manufacturing facilities.

It is estimated that capital to the amount of \$3,000,000 is invested in existing clay products plants in Southern California alone. Industries said to be especially needed are factories for making sanitary pottery, full lines of insulators required for power lines, industrial plants heating and lighting systems, conduits of every size and capacity, architectural terra cotta on a large scale, and chemical stoneware to parallel the tremendously growing chemical industries of this region.

A prominent citizen of Los Angeles recently said that a solid foundation has been laid for the safe and profitable investment of capital in a great development of the clay products industries on the Pacific coast. Important reactions from the United States government's research work during the war are about to accrue to the Los Angeles clay industries through investigations and discoveries made during that period which were of a permanent value to the industry. A laboratory then established has continued to function ever since having been responsible for proving the Curtis theories for the vitrifax manufacture. At the present time research is going on in the same laboratory to prove the insulator values of the local clays.

Clays from all over southern California are being constantly subjected to scrutiny and scientific tests with satisfactory results.

A veritable mountain of clay was uncovered during the progress of this research work at Alberhill, Riverside county, 74 miles southeast of Los Angeles. A variety of clays is included in the mountain which is owned by the Alberhill Coal and Clay Co. of Los Angeles, of which James H. Hill is general manager. In speaking of the clay mountain at Alberhill, a visitor, Charles J. Kirk, president of the Universal Sanitary Manufacturing Co., Newcastle, Pa., who carefully went over the various workings and shafts, said that although previously skeptical he was amazed at such a revelation as stood before him.

In speaking of plans for the future James H. Hill, head of the Alberhill Coal and Clay Co. and of the war research work for the government, said: "We have a tract two and a half miles long and a mile wide with proven clay deposits almost inexhaustible, including coal, for producer gas, glazing compounds and adjacent deposits of silica and feldspar for china and magnesite for refractories; including also an abundance of water for industrial and domestic supply."

Of 120,000 tons of clay mined in 1920 at Alberhill, the Los Angeles Pressed Brick Co. used 54,000 tons for brick manu-

facturing. The addition of a late model continuous kiln is now contemplated so that this concern's capacity will be doubled during the present year.

Operations of the Standard Pottery Co., Los Angeles, which recently commenced the manufacture of hotel chinaware, and porcelain wares, mark the first actual production of table chinaware on the Pacific coast on a commercial scale. This company plans to widely increase its scope of operations and productive capacity.

The Western Brick Co. has been incorporated to do business in Los Angeles with a capital stock of \$50,000 of which \$500 has been subscribed. Directors are as follows: L. F. Schulze, J. J. Lagomarsine, August Fischer, Mary H. Wild and G. A. Wild, all of Los Angeles.

The American Encaustic Tiling Co., Ltd., of New York and Los Angeles, has announced that extensive deposits of feldspar and silica will be mined in Riverside county, near Nuevo.

A reduction of 5 per cent. on all brick put in the wall has been announced by the three large brick concerns of Tucson, Ariz., in an attempt, they say, to stimulate building activity in their city. The concerns making the reduction are: The Pima Brick and Tile Co., the City Brick Co., and the Tucson Pressed Brick Co.

San Francisco.

SUNSET.

## NEW PLANT FOR THE WHEATLEY POTTERY.

ANNOUNCEMENT has been made to the effect that the Wheatley Pottery Co., of Cincinnati, Ohio, at present located at 2426 Reading Road, has purchased a portion of the plant formerly occupied by the R. K. LeBlond Machine Tool Co., on Eastern Ave., which comprises 125,000 square feet of floor space. The series of buildings have a total frontage on Eastern Ave., of 1,200 feet, extending to the Pennsylvania railroad, where there are facilities for a thirty car siding. The buildings are one, two and three stories, and are equipped with sprinkler system.

Some time ago the Wheatley Pottery Co. purchased a tract of land at the Cincinnati, Lebanon and Northern railway and Lester Road, in Kennedy Heights, whereon a new plant was to have been builded. The plans had been drawn, but owing to the high prices of materials and the unsettled labor conditions, the matter was held up for a time. Now the original idea will be abandoned, and the new plant as stated will be located in Eastern Ave. The company, which has a force of thirty employes, and which has been manufacturing garden pottery and faience tile, will increase its output by manufacturing an architectural faience as well. There will be a force of three hundred employes when the operation is under way. It is likely that the capital stock of the company will be increased. Nothing definite toward a move will be made until April 1. The new plant comprises sixty per cent of the LeBlond plant, and is the northern section of the same.

## Webster's Continuous Down Draft and Continuous Muffle Kilns

Patented in United States, Canada and Great Britain. Marvels of ingenuity and simplicity. Pronounced by experts to be the most perfect and cheapest kilns to construct and the most economical to operate, ever invented or put upon the world's markets.

Equally as economical for burning any class of goods from common bricks to the highest grade ceramics, glazed ware, etc.

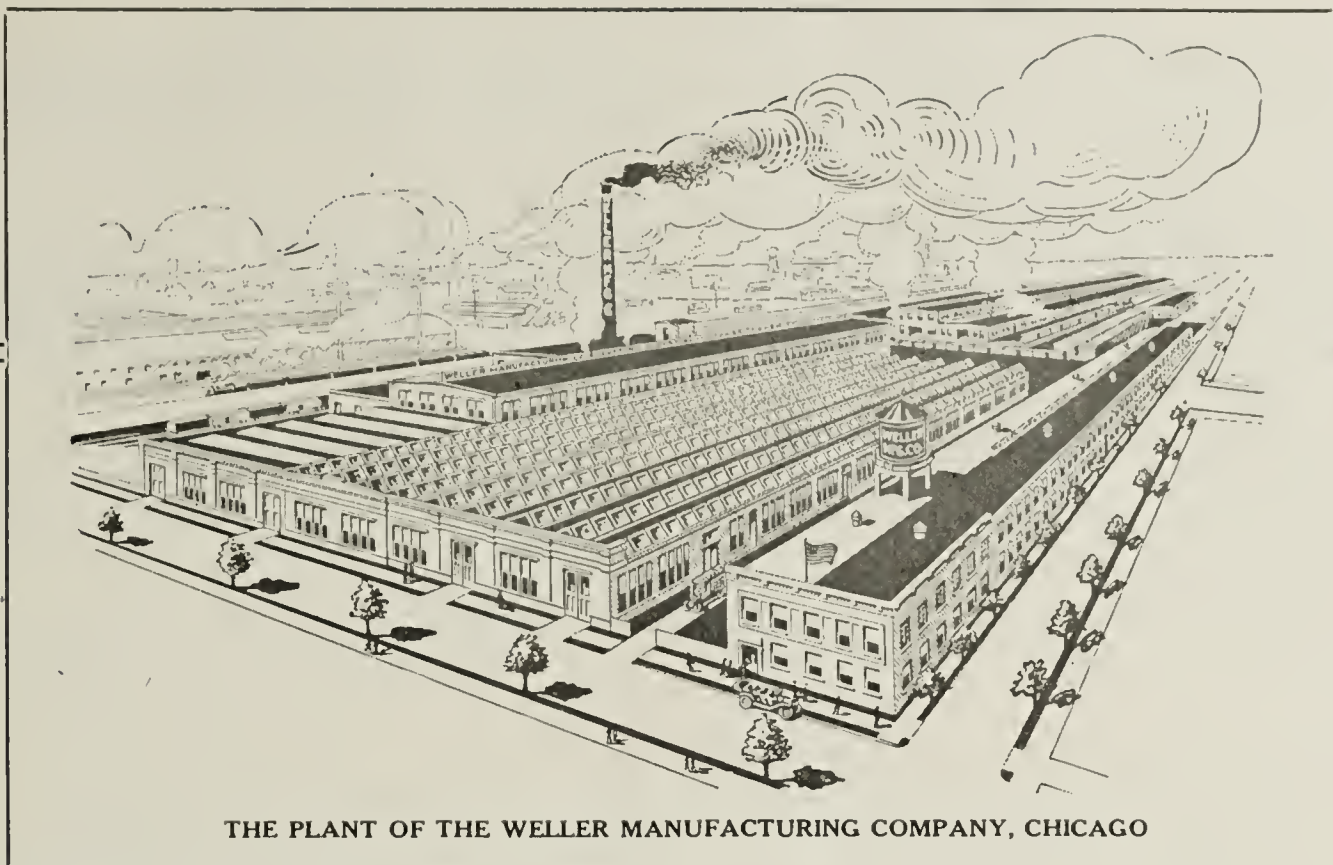
### HENRY WEBSTER AND SONS,

628 Lexington Avenue, Newport, Ky.

Kiln specialists and consulting engineers. Forty years of practical experience in clay products industries and continuous kilns.

Members N. B. M. A. U. S. A. Institute of Clay Workers Great Britain, Blue prints of kiln can be seen at Clay-Worker office, Indianapolis, Ind.



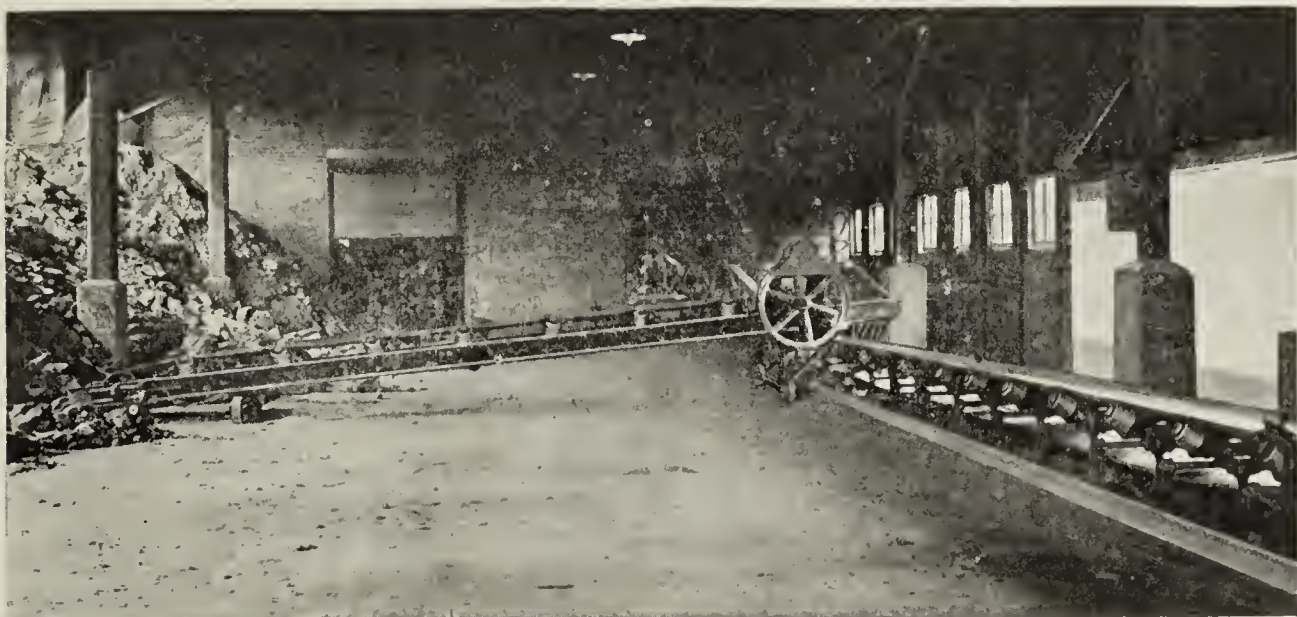


THE PLANT OF THE WELLER MANUFACTURING COMPANY, CHICAGO

## ELEVATING, CONVEYING AND POWER TRANSMITTING MACHINERY FOR CLAYWORKING PLANTS



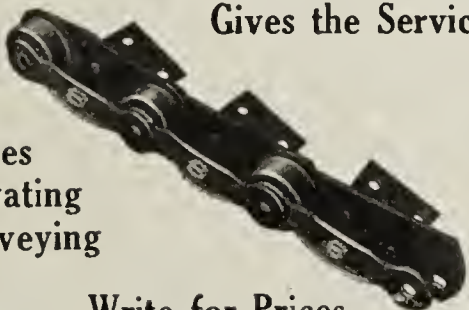
THE MARK  
OF QUALITY



WELLER BELT CONVEYOR INSTALLED IN A CHICAGO BRICK PLANT.

WELLER MADE STEEL CHAIN  
Gives the Service

For  
Drives  
Elevating  
Conveying



Write for Prices

We Design and Make  
Apron Conveyors, Belt Conveyors, Drag Conveyors,  
Bucket Conveyors, Pan Conveyors, Spiral Conveyors,  
Bucket Elevators, Dump Cars, Trucks,  
Pulleys, Hangers, Bearings, Friction Clutches,  
Sprockets, Gears, Shafting, etc.  
Coal Handling Equipment.

*Send us your inquiries.*

# THE WELLER MANUFACTURING COMPANY CHICAGO

New York

Boston

Baltimore

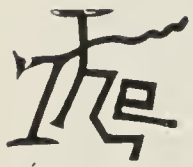
Pittsburgh

San Francisco

Salt Lake City



## THE NEW YORK SITUATION.



SITUATION IN NEW YORK is not essentially different from what it is in other Eastern building centers, with only a few important projects showing up. There are some plans out for bids on a number of office buildings and business structures, together with a few minor jobs.

New York in itself, cannot be taken as a criterion at the present time, in regard to the activity in the building industry. The recent State Legislative inquiry has left conditions in a very unsettled condition. The prospective builder is anxiously awaiting some definite attitude regarding price levels for materials and labor, as the unstability of the material market does not warrant immediate action on his part. The labor situation seems to be steady and there is no hint of reductions on the part of the employer, or wage advances on the part of the worker. Just how soon the former is to come is problematical.

To promote cooperation and betterment in the building and construction industry, plans are under way for the organization of a permanent conference. This organization is to be known as the National Congress of the Building and Construction Industry. It is proposed to organize branches in the principal cities. It is hoped it will bring about better cooperation and a better understanding of all those connected with the building industry.

The labor world seems to be stabilized and the uncertainty of strikes and walkouts has entirely passed away. There may be a turn from the employers, but this is all a question. The present indications are for a continuance of the present wage scale.

The brick business is probably no better or no worse than any other, but it must suffer along with the others more or less severely. The present outlook is changing in aspect very rapidly. It is noticeable to some extent in the volume of plans out for estimate. Some contracts are being awarded, and the necessary materials for building are beginning to move. The investors in building enterprises are apparently stepping in again and taking advantage of the opportunity of making money as each case presents itself. These are pleasant facts, and each has a tale of its own. Eventually conditions will get back to normal and as they stand today, are very encouraging.

Common brick holds at \$16.00 to \$18.00 for the better grades of Hudson River production in wholesale lots at the docks. Dealers are asking \$22.70 delivered in truck load lots. The common brick market is operating under a very sullen mood. There is plenty of material available from upstate points but there are few who want in comparison to normal times. No more than twelve cargoes came in up to a short time ago. At the present time there are in the neighborhood of fifty barges available. Distribution is light as compared with normal times, with little or no call from outside the city. The yards upstate have ceased to operate and are marking time, getting ready for the spring boom.

The New York market has a very weak call for the other burned clay products, although prices are steady. Good face brick holding at \$45.00 to \$55.00. Standard fire brick selling at \$75.00 and \$80.00. The demand is fair for minor burned clay goods, with no variation in price. Partition tile steady at present levels.

Common brick delivered at points in Northern New York vary with the distance from the yards, this variation being between \$20.00 and \$35.00, lower on Hudson River points and increasing toward the West on the canal.

A few of the more important building projects showing up to give some encouragement to the situation in the Greater City and what is the best part, the plans are out for estimates—

one two-story brick foundry to cost \$75,000. One seven-story brick office and apartment building alteration to cost \$50,000. One one-story brick power house to cost \$1,500,000 at Utica.

The foregoing is only a brief outline but it lends hope to the situation. We must bear in mind, there has never been a complete cessation of building operations, and at the present time, there is some office, hotel, apartment, and some of the other types of buildings proceeding as usual. The men working on these projects are actually working, for fear of losing their jobs, hence there is some efficiency that is born only of this fear.

Two new corporations have been chartered in New York, including Albert O. Makey & Co., Inc., Wilmington, Delaware. Capital \$250,000 to carry on general contracting business. Thornsby Mfg. Co., Wilmington, Delaware, Capital \$200,000 to carry on general contracting business.

—A. L. B.

## THE ANNUAL BANQUET.

(Continued from page 369.)

New York because New York reaches out. It is said that the ordinary New Yorker does not know there is anything west of Hoboken. That is not true, I can assure you. It is not, because we are meeting more and more in New York the men and women who come from all over this broad country, and we find they are like ourselves. They are earnest, they are diligent, and we know they are with us, and of course we know the time is only a little while off when you will all be New Yorkers. You are headed this way, and we all expect you to be here by and by as citizens of our city, so instead of 7,000,000 population we will have 16,000,000, and we hope to be here when you come, and that you will be a part of that 16,000,000. You will always be welcome. The organizations in which I have membership are headed toward success in their undertakings, I feel sure. I can hardly let this meeting break up without harking back to the business end of it. It is said that, "All play and no work makes Jack a dull boy"—I know what I am saying, and you know I know. What is the good of playing unless you all work some! Now when Ralph Stoddard explained his plan to you in the convention some of you said, "I never knew what I had missed until I came to the convention and listened to your plan." Now don't go home and forget to go down into your pocket and hand it to Ralph Stoddard because he needs it in the business, because it is your business he is working on. A man of Ralph Stoddard's capacity is being looked for by somebody else beside the brick manufacturers. We know if Ralph Stoddard can have his way the brick business is going to be better. I cannot speak about the result it will have on our bank accounts, not that I am afraid for myself—I am past that, you know. But seriously speaking, the N. B. M. A. makes for the scientific development of your business, the C. B. M. A. shows you how to take that scientifically developed product and make it known everywhere in America, to every man and woman, and especially to the women so that they will presently be telling their husbands they don't know how to do business, and I am sure you will all be helpmates in showing how it can be done, and have it brought to the brick manufacturers' attention how to do it, so there will be more brick made with less expense, and bring a reasonable price, that they may be in the mind of every one who has a home to build. That brick shall be the real thing in the construction of the future home. The perfume of these flowers comes up to my nostrils and interferes with the thought of hard headed business I would like to talk with you about. I am overcome a little with the emotion that arises in me. I thank the Common Brick Manufacturers' Association again and assure them whatever ability I have will be at their call, and I will ever remember this night and remember their kindness to me during the convention, the assurance of your belief in me when it became known to you what had occurred will be remembered. That being all, I thank you. The meeting is over and if the song leader will favor us we will stand and sing Auld Lang Syne.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

# THE MANUFACTURERS EQUIPMENT CO.

## DAYTON, OHIO, U. S. A.



Written for THE CLAY-WORKER.

#### CINCINNATI BRICK AND BUILDING NEWS.

**T**HINGS ARE BRIGHTENING in the building field, and spring seems to offer something tangible in the way of a revival of the demand for clay products. There does not appear to be at this time any reason for a big increase, for the conditions generally are not conducive to this favorable aspect now. But the very large amount of work that has been contemplated will at least help to care for a reasonable number of orders, and the improvement might even be more favorable when the weather becomes more settled.

Orders are more noticeable and the numbers of inquiries show that the public is ready and even eager to proceed. There are some indications that at least a fair number of projects will be under way without regard to the present unfavorable conditions, but the amount will be materially increased should the above noted attitude of the working element see the wisdom of changing its stand and in this way of bringing about a much needed change. The material men are hopeful, and are eager that some action be taken to help improve the conditions, so that if there is at least a partial show of relief offered by the workers the situation will be very much bettered, and within a few weeks there should be considerable work contracted for that will make the present an active season.

While building operations here for the month of February were much larger than the same month last year, the sum total of the amount was about \$200,000 less than in 1920. This is due to the fact that the cost of material has been reduced some since that time, and to the added fact that several large building permits were included in the 1920 report. The number of permits for the past month were 1,159, the cost being \$624,090, while those of a year ago were permits, 857, and cost, \$801,445.

Harry M. Price, architect, has been given permission to go ahead with the construction of the Keneseth Israel Congregation of the new temple to be builded at the northeast corner of Washington and Rockdale Aves., Avondale. The cost of the building will be about \$140,000. The exterior will be of classic style, and the materials will be stone and terra cotta. It will be 70 by 100 feet.

The George A. Fuller Co., of New York City, has been awarded the general contract for the theater of the Columbia Amusement Co., to be builded at the southeast corner of Seventh Street and St. Clair, to cost about \$600,000. It will be two-stories, fireproof, 78 by 118 feet with a seating capacity of 2,500 persons. The exterior will be of ornamental brick and terra cotta. The plans were made by A. McElfetrick.

The Hamilton-Moylan Co., residential contractors, has purchased a number of lots in Avondale, and will build thereon a number of residences, to cost from \$6,000 to \$9,000 each, of the single and duplex apartment type. The project is a large one in the matter of home building, and promises to be a material aid toward this kind of construction work here.

The brick outlook is fair here, though there is not as much promise in this way as could be hoped for now. The Busse Brick Co. say that the outlook is fair. The company has about a million brick on hand and expect to resume operations about April 1. Much, however, will depend upon the conditions with regard to the demand. As yet this has not been very active.

The Queen City Shale Brick Co. say that the situation appears to be fair with the indications that there will be a very good demand for brick this spring. The company is still at work, and has been making some hollow brick of the single and double type. The sales are not overly active; but give promise of a very good demand later.

There has been some improvement noted by the Builders' Material Co., and while the situation is not as good as it might be there is something in prospect. The company has been awarded the contract to furnish the architectural terra cotta for the new Herschede Building on Fourth Street, and the same for the new Cox Theatre on Seventh Street.

Reports at the Purcell Brick Co. are that the indications point to a much better demand for face brick now. More inquiries have been noted of late than in a long period, and they feel much encouraged over the prospects for spring.

The Cincinnati Clay Products and Supply Co. say that the indications appear to be much better in the past few weeks, and the outlook now is that there will be a very fair demand for clay products in the coming weeks. The very fact that the people are taking an active interest in the conditions points to a logical aspect of the matter.

The Blair Brick Co. has on hand now about two million

building brick, but will not resume operations at the plant until after April 1. There being ample brick on hand to meet the demands for the present there is no need for any action until that time. CINCY.

#### COLOR HARMONY IN MORTAR AND BRICK.

**W**E ARE INDEBTED to the Ricketson Mineral Paint Works, Milwaukee, for a copy of a beautifully illustrated booklet bearing the above title. In the preface the publishers say, \* \* \* "Care in the selection of proper mortar color for any structure enhances its monetary value, and makes a pleasant and attractive effect at all times," and they demonstrate this fact by a series of beautiful color plates of brick panels, showing the effect of mortar colors in varying shades of black, chocolate, red and buff, when used with both rough texture and smooth surface brick. This pretty booklet is a big booster for face brick as well as mortar colors and is the joint product of the mortar color manufacturers, who are associated for promotion work. The list includes the Chattanooga (Tenn.) Paint Co., Clinton (N. Y.) Metallic Paint Co., The Wm. Connors Paint Mfg. Co., Troy, N. Y., Jamestown (Pa.) Paint & Varnish Co., Lookout Paint Mfg. Co., Chattanooga, Tenn., George S. Mephram & Co., St. Louis, Mo., Ricketson Mineral Paint Works, Milwaukee, Wis., Roll Mfg. Co., Cleveland, Ohio, James M. Wells Co., Ogdensburg, N. Y., and the C. K. Williams & Co., Easton, Pa.

#### ANNOUNCEMENT OF BUILDING OFFICIALS' CONFERENCE.

The seventh annual meeting of the Building Officials' Conference will be held in Cleveland, Ohio, on Wednesday, Thursday and Friday, April twenty-seventh, twenty-eighth, and twenty-ninth, nineteen hundred twenty-one.

Headquarters will be at the Hotel Statler which is located at Euclid Avenue and East 12th Street.

The following exceedingly interesting program has been arranged by Chairman Rudolph P. Miller, of New York City:

Wednesday, April 27th, at the Hotel Statler at 10 a. m., joint session with the Hollow Building Tile Association, and address by Mr. Charles C. Crockatt on "Hollow Building Tile and Its Relation to Building Laws and the Administration of Those Laws."

At 11:30 a. m., an address followed by discussion on the subject of "Standard Classification of Buildings as to Occupancy."

In the afternoon, 2 p. m., a visit to terra cotta plants in the vicinity of Cleveland, with members of the Hollow Building Tile Association, and a trip of inspection of a new type of eight inch brick wall construction—at the invitation and suggestion of the Common Brick Manufacturers' Association.

In the evening, 8 p. m., meeting of the Executive Committee.

Thursday, April 28th, at 10 a. m., business meeting, for the consideration of the Treasurer's report, Executive Committee's report, report from the representative on the Sectional Committee of the "American Engineering Standards Committee," and the election of officers.

Afternoon session. Address by Dr. Robert H. Whitten, special city plan advisor for the City Plan Commission of Cleveland, on "Building Zones."

Address by Mr. William Carver of the Common Brick Manufacturers' Association on "The Thickness of Brick Walls for Small Residence Buildings."

A discussion on "Methods of Inspection."

A discussion on "Signs and Other Projections in Public Ways."

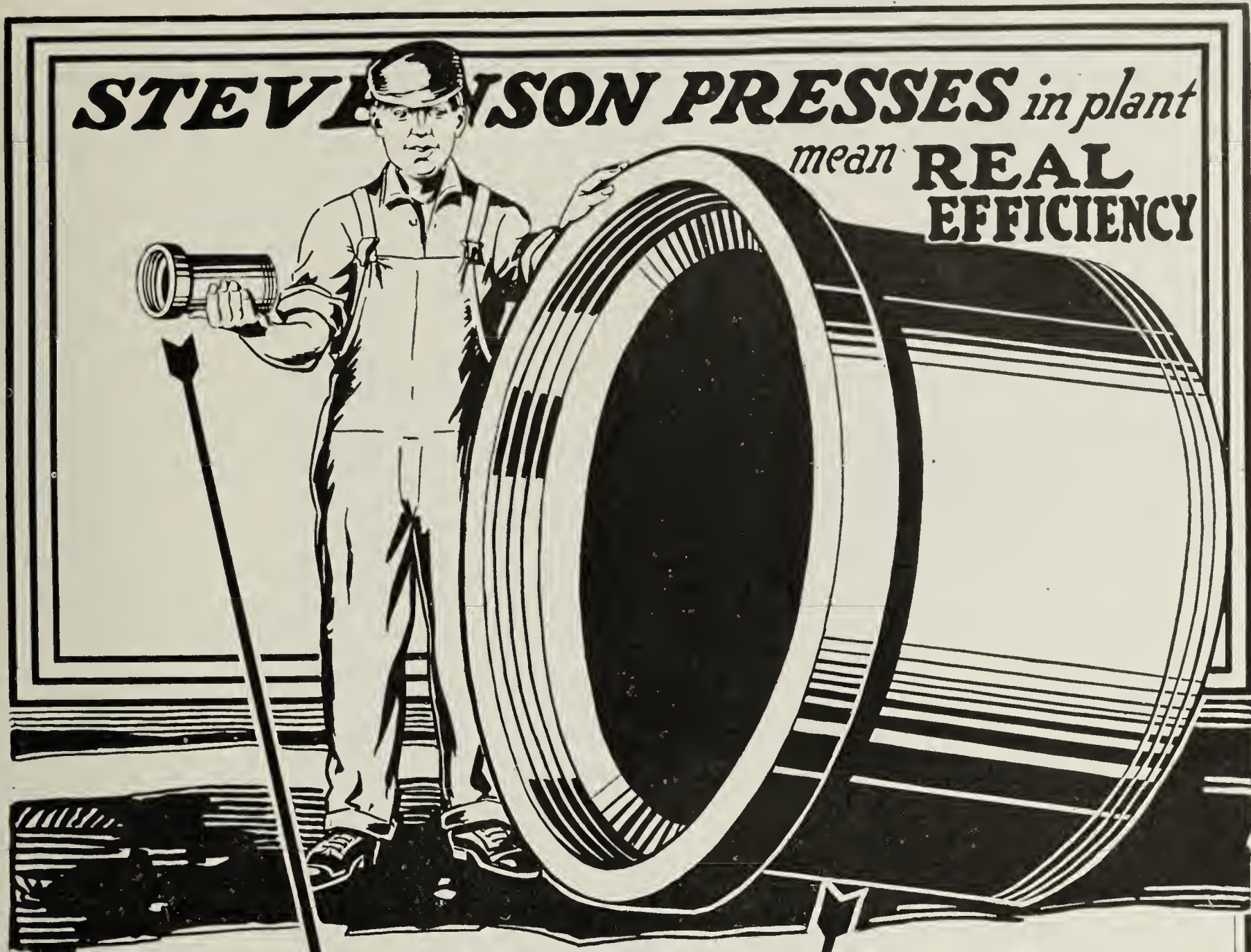
Discussion on other topics of interest. Speakers to be announced later.

Evening. A session will be held, if desired, for the discussion of other topics or a continuation of the discussions not completed.

Friday, April 29th, a trip has been planned to Massillon, Ohio, to visit the plant of the National Pressed Steel Company. Buildings in the construction of which metal lumber is being used will be visited. There will be a discussion on the use of metal lumber as a building material.

For further particulars address Fred W. Lumis, Secretary, Springfield, Mass.





**STEVENSON PRESSES** *in plant*  
mean **REAL**  
**EFFICIENCY**

**Green Sizes**  
3" ——— To ——— 42"

**RANGE OF SOCKET PIPE  
MADE ON**

**STEVENSON PRESSES**

*MANUFACTURING SPECIALISTS—*

**DRY PANS  
WET PANS  
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## REDUCE LABOR AND OPERATING COST With Our ONE-MAN EXCAVATOR



It is no longer necessary for even the smaller operators to depend on the slow, uncertain, and production hindering factor of hand labor. THE BAY CITY EXCAVATOR will handle sufficient material for the plant making 25 to 100,000 brick, will give a good mixture and do the work of several men.

**Economical — Practical — Dependable.**

Read what this satisfied user says:

"Clio, Mich., Nov. 16, 1920.

"Bay City Dredge Works,

"Bay City, Mich.

"Gentlemen:

"Replying to your inquiry of recent date regarding the operation of our  $\frac{3}{8}$ -yard excavator, we are pleased to say that it has given us entire satisfaction.

We have been working in a nine foot bank of hard, tough clay and have delivered to the brick machine sufficient clay for a daily run of 32,000 brick, with the excavator in operation less than 50 % of the time, with a crew of three men, consisting of the operator and two drivers. With the installation of larger conveyances for hauling the clay we are convinced that the services of one of the drivers can be eliminated, thus requiring but two men where five and six men were formerly necessary.

"An added feature which has greatly appealed to us is the perfect mixture from bottom to top of the various clay strata with every dipper, making an improved and more uniformly finished product.

"Again expressing our entire satisfaction, we are

"Yours truly,

(Signed) "L. J. & C. E. SCHOLL."

**Write for Catalog 3.**

**BAY CITY DREDGE WORKS**  
**BAY CITY, MICH.**

Written for THE CLAY-WORKER.

CLAY AND BUILDING NEWS FROM MILWAUKEE AND WISCONSIN.

**D**URING the next sixty days important developments in the general business situation are expected to take place which will pave the way for a general resumption of activity in practically every line of industry in this section of the country. As far as the clay industry of Wisconsin is concerned at the present time, activity is being carried on along seasonable lines. Plans are under way for a large production as soon as spring weather opens up, at which time one of the largest building programs ever undertaken in this state will be launched, unless some unforeseen condition arises to change plans which are already well under way. It is generally conceded that business at this time is showing marked signs of adjusting itself to a stable basis.

For the period since the first of the year much favorable comment has been expressed. During the past month the change has shown the elements of progressive development. During February in Milwaukee 1,570 building permits were issued for construction work valued at \$1,191,723. This compares favorably with the report of the corresponding period last year when 1,420 permits were issued for \$1,173,273. The month previous was slightly below January, 1920, but the total thus far for 1921 is almost equal to the previous year's record. As the building depression during the last half of 1920 was marked to a greater degree than the first six months, the showing made thus far this year is looked at with great importance as actual proof that conditions are improving.

Manufacturers of clay products throughout Wisconsin are in an optimistic frame of mind regarding developments which will increase the demand and consumption of their products during the coming months. Construction work cannot consistently be delayed very much longer and business adjustment during the next thirty to sixty days should bring conditions to a point where normal activity can and will be resumed generally. Municipalities, spurned by the effort to provide work for a large number of unemployed, are planning to do as much public building, street, sewer and other city construction as will be consistent with conditions. Architects and engineers report that a large number of proposed buildings have reached a stage in the development of plans where operations can be started on short notice. Considering all things there is very little if any reason why optimism should not prevail.

According to reports from cities in the state where clay product industries are located, brick and tile manufacturers are now at work getting things into shape to resume normal activity. Dealer inquiries are increasing in number and stocks are being replenished to take care of the demand which will begin to materialize within a short time. It is reported from Dodgeville, Wis., that a new brick and tile industry is contemplated. For many years brick were successfully manufactured in this city, but in recent years activity ceased. The Illinois Central Railroad Co. is said to be interested in the new plant which would be located near its right of way and give the manufacturer excellent shipping facilities. If the idea materializes it is expected that manufacturing will be carried on on a large scale, employing from 100 to 200 men.

A. BADGER.

**"EVERYDAY A GOOD DAY."**

That little publication, the Weather Vein, gotten out by the Carrier Engineering Corporation, carries a slogan "Everyday a Good Day." This has reference to the weather and the temperature and humidity conditions in the office and plant which they furnish equipment to control. It is a good slogan anyway and can be applied to business as well as the weather conditions surrounding one.



# LOWER PRICES

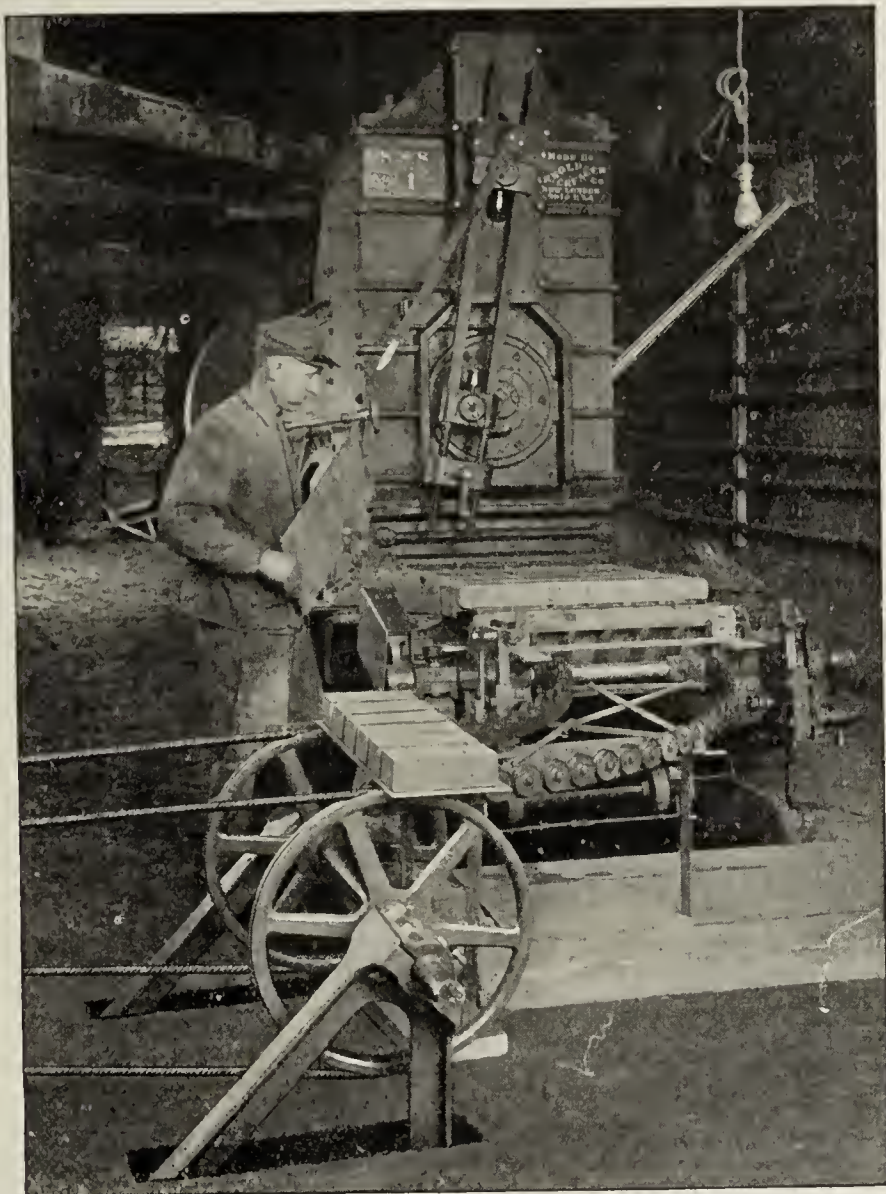
You can meet lower price competition and cut your manufacturing cost by **increased production of better quality** bricks with **less labor**.

Install the now famous "Arnold-Creager" S. S. S. Special Automatic Brick Machine.

## HERE IT IS!!!

Here are some of  
the users:

Burroughs & Mankin,  
Richmond, Va.  
Builders Brick Mfg. Co.,  
Hooper, Neb.  
Baltimore Brick Co.,  
Baltimore, Md.  
James Cornhill,  
Chatham, Ont.  
Dover Fire Brick Co.,  
Strasburg, O.  
Excelsior Brick Co.,  
Menomonie, Wis.  
First Ave. Brick and Tile  
Co., Evansville, Ind.  
The Hinde Brick and Tile  
Co., Sandusky, Ohio  
Jova Brick Works,  
Roseton, N. Y.



Here are some more  
of the users:

C. H. Klein Brick Co.,  
Chaska, Minn.  
McLain Fire Brick Co.,  
Irondale, Ohio  
James B. Oberly,  
Wilmington, Del.  
Remillard Brick Co.,  
Pleasanton, Cal.  
A. F. Smith Co.,  
New Brighton, Pa.  
Superior Brick Co.,  
Cleveland, Ohio  
Wisconsin Red Pressed Br'k  
Co., Menomonie, Wis.  
Welch-Bright Co.,  
Monaca, Pa.  
Zerrenner Brothers,  
New London, Wis.

## THIS IS HOW IT DOES IT!!!

1. Saves labor of four (4) men—at least \$12.00 per day.
2. Produces 10,000 more bricks per day than any machine requiring labor for bumping and dumping, thereby reducing manufacturing costs of the green bricks one-sixth.
3. Molds stiffer clay—and makes better bricks than the antiquated machines, increases sales, satisfies the customer and yourself.

Ask us about our deferred payment plan that practically puts the machine on your pay-roll.

**"Arnold-Creager" and "Martin" Brick Machinery and Supplies.**

## LANCASTER IRON WORKS, Inc.

Lancaster, Pennsylvania

### BRICK MACHINERY DEPARTMENT

JAS. P. MARTIN, Mgr.



## Why are these Beans burned on Top?

Dan O'Dowd was a typical son of the soil and had a craving for the wild country and baked beans. Somehow his devoted wife Mary Anne could never cook beans to suit his taste. As a matter of fact, they were usually burned on top.

Mary Anne's stove suffered from the same ailment as a great many Ceramic Kilns do. The heat was unevenly distributed, comparatively cool at the bottom and excessively hot at the top, due to radiation from many uninsulated surfaces.

Insulation of all the heated surfaces of Mrs. O'Dowd's kitchen stove or the Ceramic Kiln, would guarantee an even temperature throughout. For the Ceramist this would reduce underburning by eliminating cool spots and in addition get more heat out of each unit of fuel by preventing the escape of from 60 to 70% of the heat which ordinarily radiates from the outer surfaces.

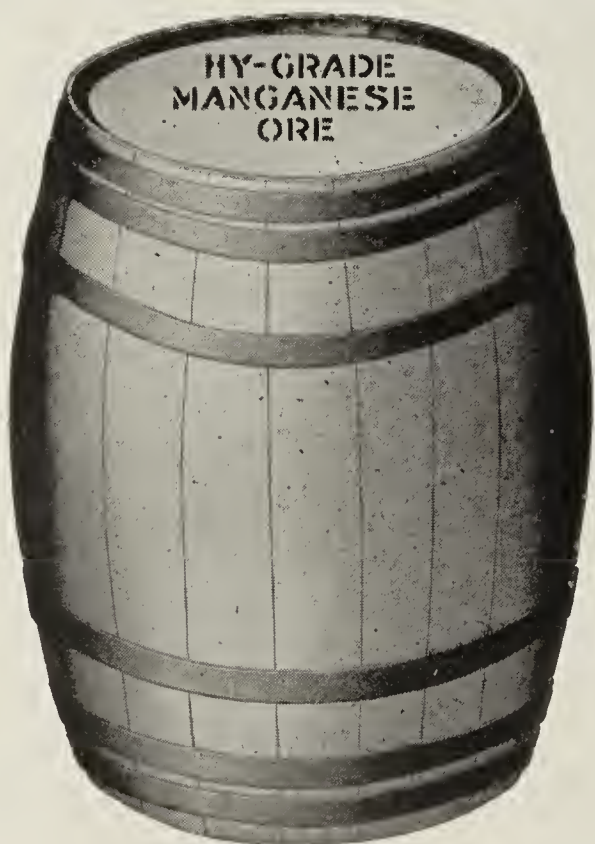


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*If you are interested in knowing how the insulation of your Ceramic Kilns with SIL-O-CEL will increase their efficiency, send for a copy of our bulletin D5-A.*

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PREVENTS HEAT PENETRATION  
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**HY-GRADE MANGANESE CO.**  
**WOODSTOCK, VA.**

Miners  
and  
Grinders

**Especially Prepared  
for Brick Making**

**Sales Office: Charleston, W. Va.**

Written for THE CLAY-WORKER.

SEEN IN NEW JERSEY.



THE DEMAND for burnt clay products is surprisingly light. Buyers are showing little interest in all varieties of building materials and brick and other forms of burnt clay products. These materials are bearing with the other materials at the present time. Sales in some places have been secured, and sellers are busy trying to interest the buyers in the present state of the market.

New Jersey is preparing for an investigation into the methods used in the construction industry, as practiced in the more important manufacturing centers. This inquiry is to be similar to the one as started by New York State some time ago. There has been a bill arranged in the legislature to provide for this research. An appropriation of \$10,000 has been asked to carry out the outline of the inquiry. The committee of investigators will be made up of three members from the senate and two from the assembly, making a total of five in all. Their powers are to be far reaching, and will cover all branches of the work, together with the subjects of scarcity of buildings, including dwellings and those used for other purposes, the difficulty in securing mortgage loans, and other moneys, and any general practices on the part of material dealers and builders, together with labor. This investigation has had its effect in helping to slow up what little work there was in progress throughout the state, as it is expected that the approval of the measure is forthcoming soon, and is to take effect immediately.

Prices have not fluctuated much during the past month. In all the principal consuming and distributing centers of the state they remain around \$25.00. In some localities they are a shade higher and in others a shade less. But they do not seem to get far away from the \$25.00 point. If they go much more, business ceases. If they fall below, the manufacturers and sellers can see nothing in the price for them and cease to make and offer. It would appear therefore that \$25.00 or thereabouts will remain for the time being, at least. There is nothing now to indicate much change from these figures. Perhaps a fluctuation of a dollar or two may be noticed, but that does not make very much difference. Newark is quoting \$25.00 as the figure for Hudson River production. Paterson is asking \$25.50 or thereabouts. In Trenton the figures are \$27.00 in retail lots, delivered. In New Brunswick the yards are asking \$21.00, while the dealers are selling for \$25.00. Camden shows very little business at all and the prices hold steady around \$25.00. Common brick is going from the Hackensack yards at \$25.00. Englewood has a little work and the prices are holding at \$25.00, or thereabouts. These prices seem to hold good in almost all sections varying a dollar or two with the rate of demand in the various localities. Movement into consumption is slowing up. Few contracts have been let during the month.

The building situation taking the state as a whole, is, at a very low ebb. Newark, the largest city, has not launched a really important job since the first of the year. The permits for building are at a very low level. It has been pointed out that what is true of Newark, is also true in a greater or less degree of the other important centers of the state. It appears that the low periods have been reached. The only tone to the situation, that is encouraging, is the new business counted upon in the spring, which in a large measure is helping to maintain prices, with no visible reduction in sight.

—BURTON.

### ADAMSON NOW MAKES TANKS AND ARC WELDED PRODUCTS.

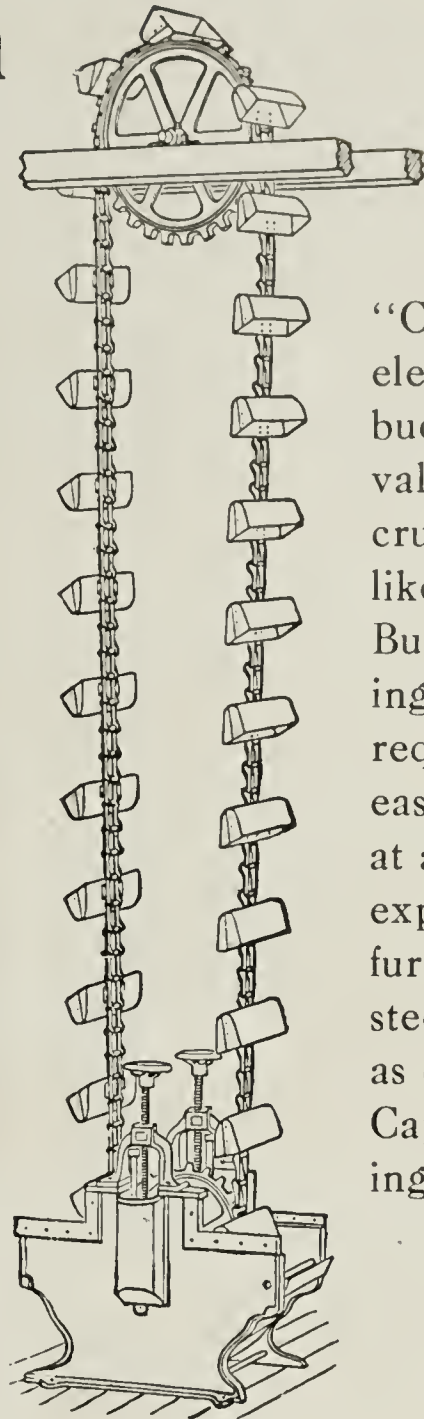
The Adamson Manufacturing Company, East Palestine, Ohio, have added a new department for manufacturing all kinds of storage, pneumatic and pressure tanks, welded pipe, battery casings, evaporators, condensers and a large line of arc-welded products.



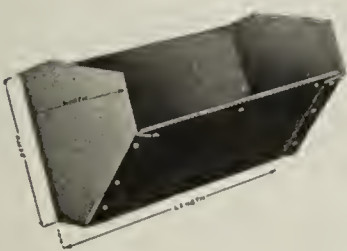
# Unloading for Three Cents per Ton



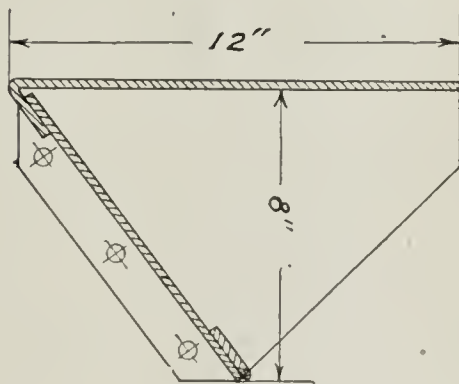
Representing the "COLUMBUS" machine unloading into overhead bin storage, the reciprocating feeder discharging the coal directly into the 24-inch continuous bucket elevator, which discharges through receiving hopper onto pivoted chute for uniform distribution through a three hundred ton, or less, storage bin.



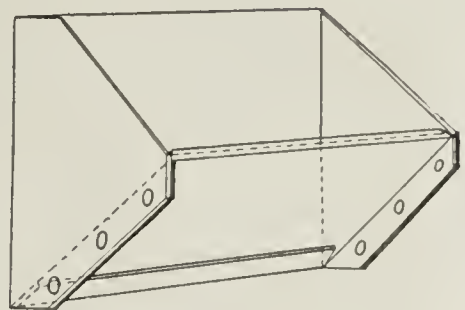
THE "COLUMBUS" elevator with buckets at intervals for handling crushed shale or like material. But little supporting structure is required, making easy to install and at a very small expense. Buckets furnished either steel or malleable, as desired. Capacity regulating size.



STYLE "A"



STYLE "C"



We manufacture a complete line of steel and malleable buckets, furnished in any size or shape desired. Your special attention is called to our type "C" continuous bucket. Note, please the ends and back of this bucket are formed from one piece with the bottom riveted in such a manner that the rivets are on the outside. With this construction, the rivet heads do not come in contact with the material, thus eliminating the annoyance of the buckets pulling apart, due to the rivet heads wearing off. Let us quote you on your requirements, please.

## THE COLUMBUS CONVEYOR COMPANY

### Columbus, Ohio

Mention THE CLAY-WORKER.



## KENTUCKY OUTLOOK GOOD.

**N**OTWITHSTANDING the hesitancy and the slow times and the need for deflation that we hear about on all sides the building outlook in Louisville and the surrounding territory is very good. Moreover we are already getting into action at a rate that speaks well for the trade in brick and clay products during the year. Not only is there lots of local building doing and in prospect, but along with it there is a lot of undertakings including street work and road projects throughout the state which promise to help considerably.

The city has a program to spend several hundred thousand dollars in improving streets and alleys during the spring and summer and this among other things will include the innovation of building concrete alleys. This will make work but it doesn't make brick trade, and the clay working industry would naturally prefer to see the alleys brick paved. A number of alleys and streets are to be improved during the summer and in addition to these local projects there are many good road contracts being let which promise to help out considerably and local building, of residence, industrial and public structures is getting under way nicely.

The R. B. Tyler Co. has received contracts for a twelve mile section of the Jackson Highway running north from Glasgow, Ky., for \$469,000, which is a fair sample of what is doing in the way of good roads work. And while there has not been included in any of this brick paving it should call for some drain tile and help out in various other ways.

Among the local building projects a new building is being erected on the State Fairgrounds to cost \$300,000 and the contractor, A. Koener & Co. of Louisville, also has a contract to build a new \$75,000 pottery plant addition to the Standard Sanitary Manufacturing Co.

In short, residence and business building in Louisville show encouraging activity and most of the brick plants here and the dealers report active inquiries and some encouraging sales.

Over on the Indiana side of the river, in addition to the new plant of the Falls Cities Hydraulic Brick Co., which adds

to the industrial activity over there, it is reported that the Autocar Co., of Philadelphia, will erect an experimental plant estimated to cost \$200,000 for the distillation of oil from the oil shale in the New Albany formation. This is a thick formation of shale which has long been known to contain quite a percentage of oil and the purpose of the present effort is to determine the practicability of converting this shale profitably through distillation into oil products.

The building statistics of Louisville for February did not show up well in comparison with February a year ago, but the March report from the building inspector's office shows decided improvement both in permits for residence buildings and for business structures. Moreover, costs of material and labor here compare favorably with other parts of the country and this is begetting a feeling of confidence both in the public mind and among the manufacturers and dealers in building material that building should go forward actively.

—Colonel.

## TERRA COTTA COMPANY BOOKING GOOD ORDERS.

The plant of the New Jersey Terra Cotta Company at Perth Amboy, N. J., is commencing to get busier in its different departments after a somewhat slack period.

Most of the work coming in at present consists of theaters and schools, but the company is busy figuring on new work for all kinds of buildings, also apartment houses.

The company is, among other work, just now turning out the terra cotta for the large Keith Theater to be located at Walnut St. & Hatters Alley, Cincinnati, Ohio. The front of this 12 story building will be entirely covered with highly ornamented terra cotta. The color for this work is of a peculiar warm pinkish shade with dark and brownish spots beneath the glaze.

The company is also manufacturing the terra cotta for two theaters for Mr. Sylvester Z. Poli, one at Bridgeport and the other at Waterbury. At the last annual meeting held by the company on January 26th, Mr. E. V. Eskesen, for many years general manager of the company, was elected its president, taking the place of Mr. Karl Mathiasen, deceased. Mr. Karl Mathiasen, Jr., was elected secretary.

## TUNNEL KILN FIRING

### CONTINUOUS---EFFICIENT---MODERN



A ZWERMANN TUNNEL KILN IN OPERATION

WRITE FOR INFORMATION ON  
THE SINGLE AND TWIN TUNNEL KILNS  
ZWERMANN PATENTS

DESIGNED AND BUILT BY  
**RUSSELL ENGINEERING CO.**  
RAILWAY EXCHANGE BLDG.  
ST. LOUIS, MO.



APRIL, 1921

UNIVERSITY OF ILLINOIS

APR 22 1921

# THE CLAY-WORKER



**BUILD RIGHT**---The square house of brick is the most economical to construct.  
Every square foot of space can be used to best advantage.---See page 449.

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**T.A.RANDALL & CO.**  
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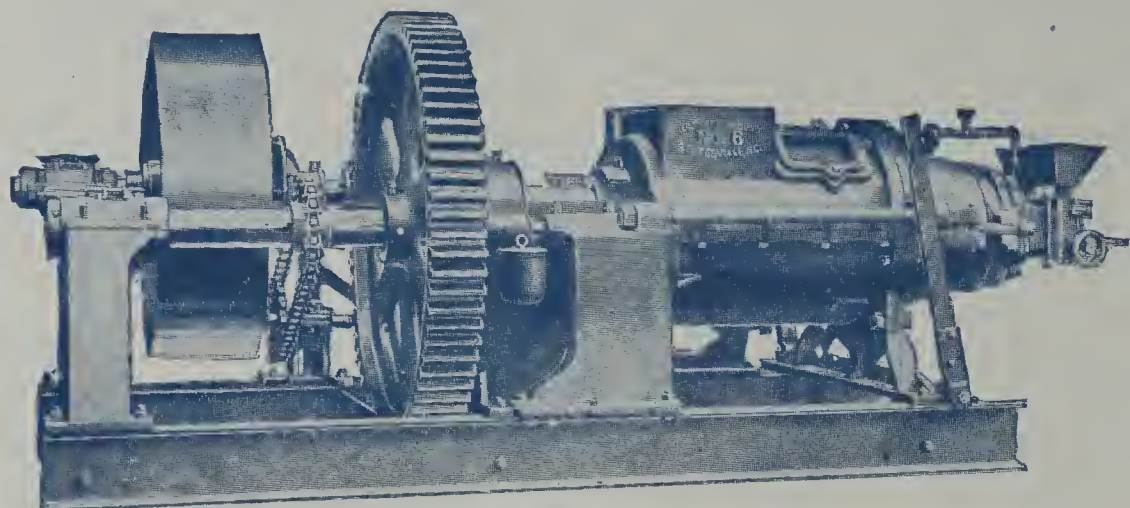
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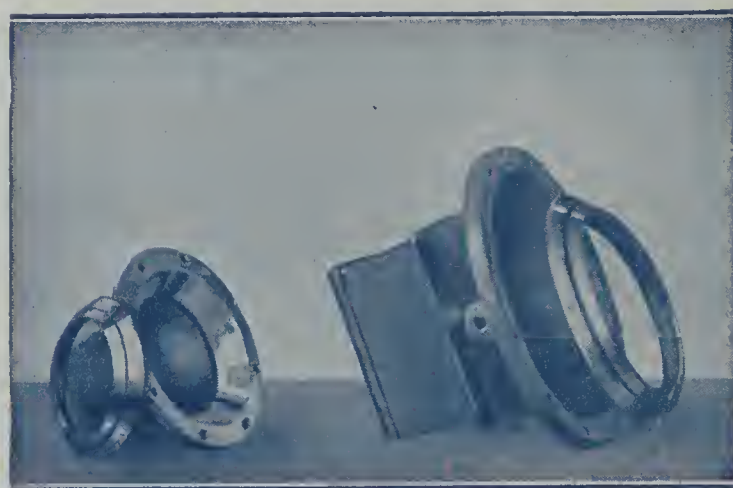
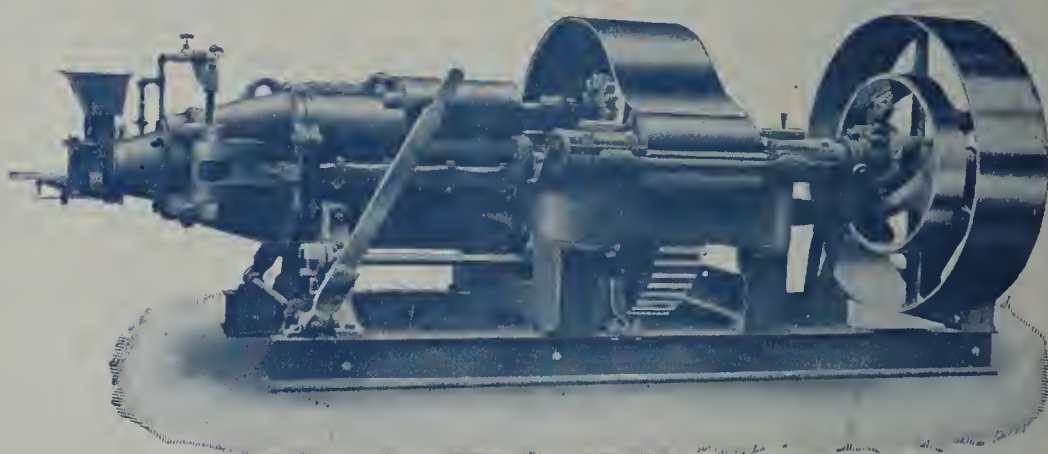
# Direct Geared Machinery for Brick Plants

We do not claim to be the originators of the Single Geared Machine, the first brick machine ever built being of that type. We have, however, so proportioned the gears and pulleys as to get the best results. Some of the advantages are: Saving in Power, Quiet Operation, Greatly Reduced Repair Costs, Operation at High Speed without Damage. All very essential during these times. If weary of the vibration, hammering and breakage of an old compound-gearred machine you will not regret having investigated the Steele Direct Geared Machines. We present cuts of a few machines below.

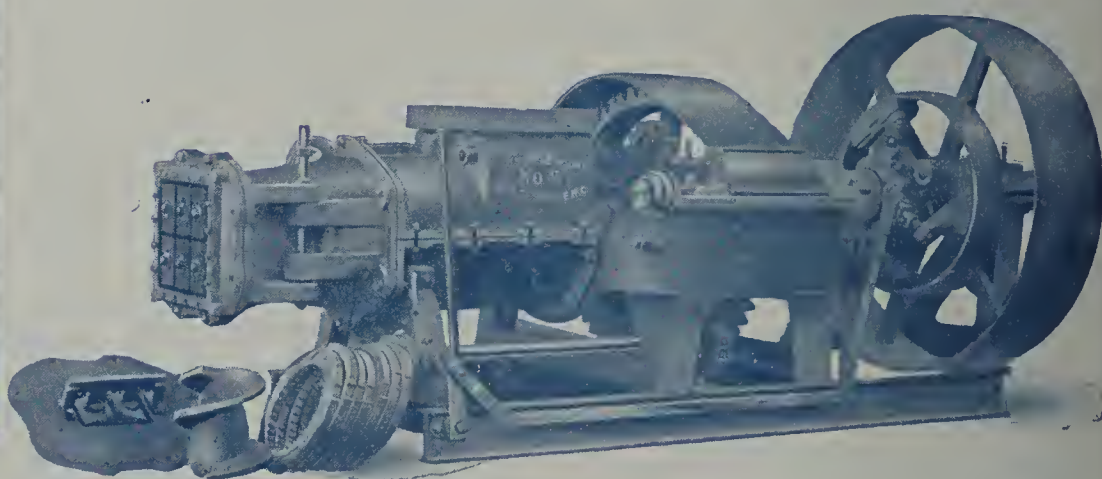


Miniature Cut of  
No. 6 Machine, Side or Endcut.  
Capacity, 15,000 per Hour.  
A Mighty Machine.

Four Sizes of this Machine  
Side or Endcut.



Oil Dies of Improved Type Side  
and End Cut.



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Mention THE CLAY-WORKER.



# THE CLAY-WORKER

THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 75

INDIANAPOLIS, APRIL, 1921.

No. 5

## BUILD RIGHT. Some Interesting Data Relative to Historic Brick Buildings in This Country Erected in the Seventeenth Century, and Pertinent Facts Regarding Durability and Economy in the Use of Well Burned Clay Brick.

TOO MANY PEOPLE in this day of cheap construction want to build cheap instead of permanent buildings. Substituting some cheap material for brick. It is an established fact that brick is the most durable building material known.

The brick in the ruins of Babylon and the walls of China made over five thousand years ago are as perfect today as the day they were made. The brick are being used over again now for building purposes after being in service for over five thousand years.

The early settlers of this country knew the value of brick and many of the first buildings erected in this country were built of brick; these buildings are in perfect condition today.

Take such buildings as the Claremont Manor on the James, built in 1892, which is one of the first brick houses built in Virginia. The brick used in its construction were brought from England as ballast. Arthur Allen, speaker of the house of burgesses and owner of 999 slaves, built the old mansion and named it for Claremont Manor in England, the home of the Duke of Kent. The plan of the house is identical with that of the English manor house, which was where Queen Victoria was born. Descendants of the Allen family occupied the house for more than 200 years. Edgar Allen Poe, when visiting his relatives at the old house began his immortal poem, "The Raven." Every president of the United States prior to Abraham Lincoln is said to have slept in the

house. A subterranean passage arched with brick leads from the basement of the house to the James river, 500 feet away. This was used in colonial days to circumvent the Indians, and to it several Allens owed their lives. This building is in perfect condition today. The Harrison Mansion at Brandon, Va., built about the same time of solid brick is also in perfect condition today. They stand out with their ivy covered walls as the most beautiful buildings to be found anywhere.

The brick is in perfect condition and beautified by age instead of expensive repairs and paint.

Old Ben's church near Chuckatuck, Va., built in 1632, is another monument to the durability of brick. This church is in use today and the brick walls are perfect. A brick building has more value, looks more substantial and permanent. Brick is the everlasting material, makes the structure beautiful, no painting, no cost for repairs, fire-proof, time-proof, weather-proof, cool in summer, warm in winter.

When you drive through the country and see a substantial brick building you say he build-ed well. It shows strength

of character in its owner, shows wealth and refinement. It stands out above the frame structure in character, strength, beauty and wealth. The first cost of a brick building is very little more than that of a frame house.

In the course of thirty years you will save about ten times the difference in the first cost in repairs, paint and insurance bills. At the end of thirty years you will know your house



Old Ben Church, Chuckatuck, Va. Built of Brick in 1632. In Use Today and Brick Work in Perfect Condition.



will be in perfect condition and ready to buck the elements for a thousand years to come. They say a brick house will burn, yes, just the same as the steel in a solid gold watch will rust.

The Monticello Hotel in Norfolk, Va., a six story solid brick structure was completely gutted by fire in Jan. 1918, and the walls were left intact without a crack. When they rebuilt it they used the same walls and added two more stories on top of the old walls making it eight stories high. What would the result been if it had been built of concrete or lumber?

There have been many substitutes for brick put on the market in late years but nothing to equal the strength and beauty of brick. The Independence Hall, Philadelphia, Pa., built of solid brick in 1729, is in perfect condition today. When you build your home build with brick and you will always be satisfied and know you have the best that money can buy.

There is nothing that adds more beauty to a home than brick steps, brick walls and ornamental brick fences. There

#### "OLD BEN'S CHURCH."

Oh, hallowed walls of olden days,  
And specimen of strength that stays  
The mighty hand of sweeping Time—  
That stands in majesty sublime.  
We read the past, the future see  
Of Christianity in thee.  
Thy tow'r, erected as a rock,  
Hath stood the tempest and the shock  
Of sin that crossed th' expanse of sea  
And wilted by the door of thee.  
We hear the anthems of thy choir  
Re-echo from each rising spire  
And float across the distant states  
To California's Golden Gates.

Now in the wood of Isle of Wight  
The Whip-poor-will reclains the night,  
And all is dark by casement old,  
Where dazzling lights once shone as gold.



Well Built Brick Homes Are Warm in Winter, Cool in Summer, Require No Painting, No Repairs and Will Last for Ages.

never was a cabinet mantel made that would equal a brick mantel for beauty. They can be built in so many styles and shapes and various colors and mingled shades. A mantel built out of mingled shade brick is the most beautiful as they blend into an umber shade that is pleasing to the eye and you never tire looking at it.

For inside lining for kitchen and bathroom enameled brick have no equal for sanitation and beauty, they come in all shades and colors to please the most fastidious. There is no limit to the use of brick and burned clay wares.

The brick business is a home industry employing thousands of men and should be well patronized. When you build with brick you keep your money at home which helps build up your own community and keep the money in circulation and every line of business is benefited just that much. Build with brick and you will build right.

This beautiful poem "Old Ben's Church" by William R. Jacobs of Suffolk, Va., now of Pasadena, Cal., was written in 1890.

The name of many a one is writ  
On massive arch, 'neath which I sit  
And wonder at the masonry  
Done in the country's infancy;  
Some writ or carved by hands that rest  
Beneath the walnut's verdured breast,  
For in the churchyard, strewn about,  
Are shatter'd slabs, with names worn out.

Two hundred years and fifty-eight  
Have drifted by thee up to date,  
And left the marks of many a storm  
Upon thy quaint, exotic form.  
Then rest, O rest, thou aged walls,  
Whilst dureful memory recalls  
Virginia's second church, which sent  
The gospel o'er the continent.  
Thy work is done; thy rector sleeps  
Where th' canopy of heaven weeps  
Its shower of dew on starry night  
Down on the fields of Isle of Wight.

WM. R. JACOBS.



## CERAMIC WORK AT COLUMBUS.



AN INTERESTING special bulletin of the Bureau of Mines gives an account of some of the ceramic work being done at the Columbus, Ohio, Station. The review is by Dorsey A. Lyon, Supervisor of Stations for the Bureau of Mines. The investigations at Columbus are under the supervision of R. T. Stull, who reports a number of practical instances of beneficial co-operation between the industry and the station during the past fiscal year.

In the preamble of the bulletin the statement is made that after careful investigation it is the belief of those in charge that the usefulness of the industry can be greatly enlarged and the importation of ceramic materials greatly lessened through the development of processes which will lead to a more extensive use of native materials. Eventually there is before the industry the world's supremacy in ceramic matters.

Under the subject of crucibles the review says:

"Prior to 1914, practically all graphite crucibles manufactured in the United States were made from Ceylon graphite bonded with German Klingenberg clay. It was the general belief among graphite manufacturers and users that good crucibles could not be made from American bond clays and graphites.

"Graphite crucibles were essential for melting certain alloys and special steel urgently needed for the manufacture of war materials. The demand for such metals was so great that it created an unprecedented demand for graphite crucibles.

"After the European war began no Klingenberg clay could be shipped out of Germany. However, it was fortunate for the crucible makers that they had large stocks of Klingenberg clay on hand. When the stock of Klingenberg clay became exhausted, it was necessary for the crucible makers to turn their attention to American clays. There was no data or other information available to guide the crucible makers in the selection of good bond clays for their crucibles. It was necessary for them to select their clays more or less by 'guess,' which resulted in the period of service of life of graphite crucibles being shortened from 15 to as much as 60 per cent.

"The ceramic station undertook the investigation of American bond clays and graphites in order to determine their crucible-making properties as compared with foreign raw materials, and to furnish both crucible makers and users with much needed information.

"Careful laboratory tests were made on a large number of clays. As a result of these tests the clays were 'sifted down' to 20 which appeared to be promising. Eighteen of these clays were domestic, one was an English clay and one the German Klingenberg clay.

"After the laboratory tests were completed, the next step was to apply the results obtained in the laboratory to actual factory practice. Fifteen large-size crucibles were made of each of the twenty clays, using a standard graphite. In order that the test might be comparable to actual practice, the crucibles were made in the regular manner at the plant of the Vesuvius Crucible Co., Swissvale, Pa.

"Ten of the crucibles of each clay were tested under the regular foundry practice for melting brass at the plant of the Detroit Lubricator Co., Detroit, Mich., and five were tested under steel-melting practice at the foundry of the Simonds Mfg. Co., Lockport, N. Y.

"Three representatives of the ceramic experiment station were present during the tests and kept accurate records of the performances of the crucibles. The results of the tests

on the brass-melting crucibles showed that two American clays tested higher than the German Klingenberg clay and eight tested higher than the English clay. Tests of the steel-melting crucibles showed thirteen domestic clays giving crucibles of higher service than the Klingenberg clay and five testing higher than the English clay.

"At present, 120 crucibles are being made in order to test the crucible-making properties of the foreign and domestic graphites. Graphite samples are to be tested from the following localities: Ceylon, Madagascar, Canada, New York, Alabama, Texas and Montana.

"The work on the bond clays is finished and the tests on the graphites will be completed soon. The crucible makers of the United States have been quick to profit by these experiments. Insofar as has been determined, no German Klingenberg clay is used in America at the present time and it is gratifying to note that some crucible makers advertise that the superior qualities of their crucibles are due to the use of the best American bond clays."

Another interesting chapter on refractories is in the experiments which it is hoped will lead to the developments of practical methods for making a refractory brick of dead burned dolomite which will compare with magnesite fire brick and result in the developing of a new industry of importance. The station has been doing some extensive experimenting with Ohio dolomites and the progress so far made is not only interesting but looks promising.

This station also has in hand a proposition to investigate not only the Ohio fire clays but the refractory resources of the country state by state. Already a co-operative arrangement has been made between the Bureau of Mines and the Geological Survey of Ohio.

In the matter of white pottery clays the report on the investigations at Columbus says:

"Over 56 per cent. of the white clay classed as kaolin or china clay used in the better grades of pottery is imported from England. It is claimed that the English clays possess certain desirable properties not found in the American clays.

"During the war the importation of clays was curtailed and the potters had considerable difficulty in getting suitable clays. At different times in the past the English potters have attempted to induce the British Government to prohibit the exportation of the china clays since those clays will in a comparatively short time be exhausted, and it is probable that at no far distant date the American potters will not be able to secure English china clay.

"Inasmuch as 52 per cent. of the domestic pottery classed as table ware is made in Ohio and inasmuch as 58 per cent. of the clay used in such pottery is imported from England, the cutting off of clay imports, either by future wars or by British legislation, would work a severe hardship upon the pottery industry, which is one of the leading industries of the State of Ohio.

"Insofar as is known, the United States contains more white clays than any other country, but very little is known of their physical properties and values for commercial purposes. Furthermore, the American clay miners are not so careful in preparing their clays for market as are the clay miners of England.

"The ceramic experiment station undertook the investigation of the white clays east of the Mississippi River in order to determine their physical properties and to develop better methods of refining and blending in order to develop clays equal to the imported clays.

"The physical properties of 100 clay samples have been determined and an improved method of clay refining has been worked out in which the fine grit and most of the objectionable impurities can be removed. Pottery has been made from some of these clays which appears to be equal to that made from imported clays."



# INCREASING CONFIDENCE IN NATIONAL CONDITIONS.

Information Gleaned from Popular Magazines and Bulletins Issued by Leading Service Organizations Shows Spirit of Optimism and Gives Insight Into Prevailing Conditions.

THE LEADING MAGAZINES of the United States are publishing very encouraging articles showing careful analysis of the conditions and trend of business, and giving very interesting and pleasing statements of facts which emphasize the increasing confidence in national conditions.

It is the policy of The Clay-Worker to give to its readers the best information possible as to the trend in the industrial affairs and to cite the fundamentals as viewed by the big men of the country today so they can have a clear vision as to the present and future prospects.

The Fidelity and Deposit Co. of Baltimore, through its one thousand representatives gathered information contained in their recent review. They obtained from bankers, manufacturers, business men and others, answers to a questionnaire covering economic, agricultural, industrial and general conditions. The replies were telegraphed to Baltimore where they were analyzed and tabulated and the information gleaned in this fashion published in a bulletin under the head "What is the Country's Condition?"

The Honorable David F. Houston, former Secretary of Agriculture, commenting on the Survey of National Conditions by the Fidelity and Deposit Company, says in part:

"The Survey indicates that the business world is still feeling its way, but with increasing confidence and with the conviction that the worst has passed. The country has successfully borne the strain caused by a most notable drop in prices, particularly of a vast volume of raw materials, and has weathered a trying period of liquidation.

"The demand for finished products has not developed to the point where our factories feel justified in taking the requisite quantity of our surplus raw materials to furnish the necessary relief to their producers; but there are some indications of a change in this direction. Business men realize that forced action based on artificial optimism may lead to unwise action and produce further embarrassment. The foreign situation has not shown the expected improvement, and continued difficulties are experienced in discovering an effective European market for our commodities.

## Favorable Domestic Conditions.

"This Survey does point to certain favorable domestic conditions. The cost of living has appreciably diminished. Building operations in a number of districts tend to increase. There have recently been no strikes of consequence. Greater productivity of labor per man is reported from all districts.

## Raw Materials Plentiful.

"Raw materials are plentiful, and physical transportation conditions are good. There have been no business failures of moment. The crop outlook is satisfactory; and the banking situation has improved. It is believed that confidence in business circles is slowly spreading and that while there is hesitancy the business men of the country are feeling their way with sound business caution, and the country is working back toward a more stable condition.

"While the Survey shows that no section of the country

reports a marked increase in industrial activity and that manufacturers, distributors and consumers still are proceeding on a short-time basis, this does not mean that the general industrial situation has not improved. The country is better off today than it was three months ago, and manufacturers in growing numbers are planning definite production schedules.

"But the public is still restricting its buying, and probably will continue to purchase cautiously until retail price reductions become more nearly equal to the reduction in manufacturers' and wholesalers' prices. The maintenance by retailers of a relatively high price level has been perhaps the chief stumbling block to quickened industrial activity.

## Tendency to Go Forward.

"The attitude of the public has prevented retailers from stocking up for spring business; but as retailers more generally reduce their prices, consumers will come more heavily into the market, larger orders will result and manufacturers can plan production schedules with reasonable assurance that prices will not fall lower. It is apparent that we are approaching the point where many manufacturers can get materials at prices they can afford to pay and, with labor wages and more efficient labor, they can furnish goods at a cost within the consumer's reach. Meanwhile producers, distributors and consumers are operating for immediate needs, with a tendency to take larger chances and to go forward.

## Reduction in Wages.

"An appreciable reduction in wages is noted in every section and in virtually every kind of industry. The fact that savings accounts have increased in the industrial sections, however, would seem to indicate that in such districts wage and salary reductions have not been as great as the reductions in the prices of commodities, and that therefore, fortunately, the decrease in wages has not necessitated a lowering of the standard of living.

## Building Operations Increasing.

"Except in New England and the Rocky Mountain States building operations are increasing. This increase, however, is nowhere sufficient to meet the demand and in every part of the country there is a need for low priced dwellings. But sentiment is not favorable to building at present prices, and until costs fall to materially lower levels, the unfavorable attitude toward building operations on a wider scale will continue.

## Credit Situation Better.

"The credit situation is improved. Interest rates range from 6 to 8 per cent for the country as a whole, but banking funds are reported available by every section except the South and Rocky Mountain regions. It should be noted in this connection that Federal Reserve banks in the South and West have practically ceased rediscounting with banks in the Northeast. Corporate balances everywhere are reported to have decreased, and this is one of the unfavorable aspects of the present situation. Yet it can be partly explained by the fact that the growing purchasing power of the dollar permits a reduction in the size of such accounts.



### Crop Outlook Good.

"The crop outlook is stated to be good everywhere. Except in the Central West and on the Pacific Coast, farmers are reported to be reducing their acreage. But this must be taken with reservations. Such statements are always common at this time and frequently turn out to be incorrect. It may be, too, that in certain areas farmers are shifting their operations and working back to a more balanced agriculture. \* \* \*

"Nowhere is there a noticeable movement of men to the farms from the industrial centers. But this is not abnormal or necessarily undesirable. After all, farming must pay, and in the long run there will be as many engaged in farming as will produce the commodities which the consuming public will buy at a profitable price.

### Housing Storage Important Question.

"The housing shortage leads as the most important local question in the hundreds of communities covered by the Fidelity and Deposit Company's reports. Unemployment is second and taxation third. \* \* \*

### Taxation Big Question.

"The big national question, according to the Survey, is taxation, with peace settlement and international trade conditions next. Taxation is uppermost in the mind of the average man. The country is opposed to the present tax system, and is becoming increasingly impatient for change. \* \* \*

"In the field of domestic taxation, the Survey reports that the country is unanimously in favor of the repeal of the Excess Profits Tax. This tax should be repealed. It is difficult of administration; it is cluttering up the administration of the government's tax laws; it does not work equitably as among business; and its yield is decreasing. \* \* \*

"What the Survey discloses should be an encouragement to us all to go forward with confidence, though not with recklessness."

### How to Meet the Shortage of Homes.

Under the above heading the Literary Digest of April 9th, has a feature article that gives some interesting statements of facts regarding the situation. In this article is shown that there is a home shortage in the United States of 1,500,000. We need 500,000 factories, 5,000 schools and public institutions, 60,000 department buildings, 20,000 theatres and churches, 150 freight terminals and sheds and 15,000 railroad stations, tool house and the like. The Literary Digest in part states: "The housing shortage has been receiving a large amount of editorial mention for months. The news columns of the papers have been full of suggestions for relief through private, municipal, state or federal action and the Calder Committee's sixty-page report calling for elaborate Federal Legislation brings all the discussion to a focus so that we can estimate the value of the proposed solutions of the housing problem. The Calder Committee, or more properly speaking, the Senate Committee on Reconstruction and Production, estimates that from 10 to 20 billion dollars is necessary to provide the structural facilities which would now be in use if war had not occurred: of this, \$5,000,000,000 is needed to build homes. The committee reports against government building or government subsidies. Its plan is rather to encourage private building. The great needs, it says, are 'better transportation, abundance of fuel, home credits or loans, and full information on the best methods of construction and city planning.' To meet these needs, several Federal laws are recommended. One of them would set up in the Department of Commerce a bureau which would gather and spread information about city planning and building methods; another would make use of existing government agencies to tell the

country all the facts about the coal supply; another would make possible the use of savings and deposits in national banks for long-time building loans. Still another would establish a home-loan bank system very much like the existing building and loan societies. This, Senator Calder declares, would be 'a step toward democracy in banking.' The committee would also amend the tax laws so as to encourage investment in residence building."

In New York State legislation has been enacted which exempts new buildings from taxation for ten years. While this may stimulate building we doubt the wisdom of this dangerous practice. Comment on this is made on our editorial page under heading, "Should We Subsidize Building."

### Low Prices in Building Material Have Been Reached.

Allen E. Beals, in his Dow Service Daily Report of April 9th, says in part:

"The ebbing limit of building material prices has been reached and the inflow has already started, but the man on the beach does not notice the change that is taking place.

"The size of the waves appear to him from his vantage point as about the same size they were two months ago. Then the waves of construction were fitful and could not be definitely classified. Today the construction wave formation is capable of being distinctly classified. It is easily recognized as being habitation. This wave formation is destined to grow to a height represented by 1,240,000 prospective home builders, most of whom have been sitting on the beach awaiting the turn of the tide. About one-third of this number will have their building projects under way before the waiters discover that the oncoming crest is of tidal wave proportions.

"Building construction for practically 200 cities in January and February were approximately 25 per cent. in excess of the average for the same two months in 1918, 1919 and 1920. The average for January over these three years was approximately \$57,448,000 based upon Bradstreet's estimate, while that for January, 1921, was \$58,599,000. The same authority shows that the February average for the preceding three years was \$57,144,000, whereas the national average for February this year was \$81,074,000. The Dow Service compilation for the first three months is \$301,960,000, compared with \$401,800,000 for the first quarter of 1920, \$366,800,000 for the same period in 1919 and \$120,000,00 for the identical months in 1918. Compared with a 'normal' year first quarter of 1921 gives a total of new construction of \$31,960,000 as against a first quarter total in 1912 of \$256,600,000.

"Had the first quarter of 1921 not been characterized with general readjustment of production costs and market prices no one questions the volume of construction that would have developed with the open weather conditions that characterized the first three months of 1921. This volume of construction is still to come out some time. Much of it is at last on architects' boards indicating a volume of building material supply later this year that will seriously tax the scanty mill and dealer stocks of the country."

### A HOLLAND FAIR.

ANNOUNCEMENT is made of the Fifth Annual Holland Industries Fair to be held at Utrecht, Holland, September 6-16, 1921. This is an international fair and suggests opportunities to display American machines and labor saving devices not only for their possible sales in Holland proper, but it is argued that there is an interesting trade in the East and West Indies which America now has a chance to get a line on in this manner. Those interested should seek further information from the New York Chamber of Commerce for the Netherlands, and the Netherlands East and West Indies, 44 Beaver Street, New York.



## BROADENING THE MARKET FOR BRICK.

**A**MONG THE INTERESTING facts and figures coming out of the turmoil of the day there are several which point specifically and significantly to a great broadening in the market possibilities of brick and other clay products used for structural purposes. We are told, for one thing, that the construction industry is the largest in the world, and that it includes roughly one-third of the business firms of the United States. Also that it normally produces three billion dollars of additional permanent taxable wealth in this country annually in the forms of buildings, highways and other architectural and engineering products.

Another thing we are told is that there is need today, actual need, of housing for four million people. Reducing this to terms of homes, and counting the usual five to the family, that would mean a present urgent need for 800,000 new homes or their equivalent in apartment houses, hotels, etc.

It is in the home building that the broad field for future development in the brick trade was opening up and today offering the best opportunity ever presented to any industry to further enlarge the market for its product. Brick has already found its way into the larger undertakings, the factory and commercial buildings, but it has never yet made the

place for itself that it should in the building of the modest homes both in the cities and towns and on the farms. This is the point it is desired to center attention upon in this discussion of a broader field for brick marketing.

Another point, and one that it is desired to emphasize, is that a broader field does not necessarily mean going further away from home to sell your brick. It is really the other way around, and one good way to broaden the field of brick building is by a more intensive cultivation of the surrounding territory tributary to the point of production rather than going to long distances and meeting the sharp competition of others. There are great possibilities of broader trade development near by and right around the majority of brick making plants in the country. The questions of today center around how to most effectively lay hold of the opportunities which are now at hand and develop them.

The first thing that comes to mind is advertising, broad sides of advertising to impressively awaken the home builders of the whole country to the fact that today they can build better and more permanent homes at less final cost than they can build more flimsy structures which require continual painting and up-keep. The people of the country are in a peculiarly fit shape now to receive education and advertising of this kind.

Naturally advertising must be followed by special salesmanship and by the development of definite trade lines so

**FREE TO READERS of the CLAYWORKER**

**FOR USE IN NEWSPAPERS, MAGAZINES, FARM PAPERS, CIRCULARS-ON PAMPHLETS, LETTER HEADS ETC.**

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The grid contains the following numbered templates:

- Row 1: 1. WOOD BURNS, 2. Brick Variety, 3. THE ROMAN COLOSSEUM IS IN RUINS, 4. Why, 15. LOOK AROUND, 16. 6 REASONS, 17. DOWN TO BRASS TACKS, 18. FIGURE, 30. FIRE'S AWFUL HAVOC, 31. Brick Colors, 33. 555555 250,000,000, 3355555 THINK OF IT, 3355555
- Row 2: 5. Brick Perfection, 6. LET THE MARSH WINDS HOWL, 7. THE Roman Colosseum IS IN RUINS, 8. POINT ME TO BUILD RIGHT, 19. BURN UP YOUR CHILDREN?, 20. BUILD WITH BRICK, 21. BUILD RIGHT, 22. BUILD RIGHT, 34. BUILD RIGHT, 35. MR. BUILDER, 36. FIRE! FIRE! FIRE!, 37. Which? Brick Economy.
- Row 3: 9. LISTEN, 10. Brick Character, 11. The Father of His Country Built With Brick, 23. Brick Construction is Cheapest, 24. BUILD WITH BRICK, 25. BUILD RIGHT, 26. \$5 DOLLARS TO YOU \$5, 38. Brick Construction Best and Cheapest, 39. Brick Adaptability, 40. FACTS.
- Row 4: 12. Brick Bonds, 13. Remember the DAYTON FLOOD, 14. Brick Security, 27. Brick Craftsmanship, 28. Brick Bungalow, 29. Why Brick?, 41. Brick Permanence, 42. April Showers, May Flowers, 43. Brick Supremacy.

The Clay-Worker Has Prepared a Series of Advertisements Which Can be Used Throughout the Year in a Boosting Campaign in Local Newspapers.



that when a man has become interested in brick he will find it readily available, and also find along with it all the necessary information to make a believer in brick building out of him. Quite a lot of the progress in the near future will depend directly upon this matter of advertising and salesmanship and the laying out of trade channels.

Take the matter of broad sides of advertising, for example, and it in a manner suggests other broad sides. Artillery bombardments, for example, and from this, from the artillery work of today as compared to that of the old days we may get an idea that is worth while.

In the old days artillery bombardments and broadside were more or less hit or miss and hap-hazard undertakings. Today as any one of the many of our young men who took artillery training in the army can tell you, they reduce this

thing to an exact science. They find the target, they get the range, and they get all this from a positive basis and reduce it to a fine science.

What we need in broadening the market for brick is to borrow an idea from this source. That idea in the matter of marketing of brick is, before you start a broadside of advertising, or a campaign of salesmanship, you should set up a definite target to aim at. That is, pick out a trade or line of trade in a location where you think business can be developed.

You direct your advertising accordingly after a survey of the situation, and meantime you should set about establishing definite channels of trade with a specific connection at every distributing point.

In the face brick industry there has been set up certain

## The MONUMENTAL BUILDINGS IN BABYLON

Were erected  
3800 Years  
Before Christ.

## THEY WERE BUILT OF BRICK

Today  
MODERN CITIES  
ARE BEING  
BUILT WITH  
BRICK TAKEN  
FROM THE  
RUINS OF  
BABYLON.

## BRICK DOES NOT DETERIORATE

(Firm Name)

(City)

(State)

## THE Roman Colosseum IS IN RUINS

It Was Built of Stone.

The  
"Baths of Titus"  
Still Stand.

THEY WERE  
BUILT OF BRICK.

Moral: Use Brick  
The Everlasting Material.

ASK US FOR THE  
MANY REASONS  
WHY BURNED CLAY  
PRODUCTS ARE  
THE BEST AND  
MOST ECONOMICAL  
BUILDING MATERIALS OBTAINABLE.

(Firm Name)

(City)

(State)

## MR. BUILDER

Save MONEY

Build Your Home  
With the Most  
Economical  
Building Material



AN IDEAL BRICK HOME

BUILD WITH BRICK

Why? Because it is the most economical for the reason that it costs only 6 to 10% more in first cost than frame and is a permanent investment.

You save a large sum of money in the end for there are no bills for painting or repairs. Lowers your insurance rate. Reduces your fuel bill. It is fire proof, time proof, element proof, vermin proof and gives the greatest satisfaction.

(Firm Name)

(City)

(State)



channels of trade through recognized dealers in the larger cities and in both the face brick and common brick trade there has been some effort to establish trade connections through the retail lumber dealers and other dealers in building material in the smaller towns and throughout the country.

The trouble with most of the efforts of the past along this line seem to be that they have been only half-hearted and too hap-hazard. Brick men have appeared at conventions of retail dealers in lumber and other building material and have tentatively pointed out chances for the retailer to pick up a little extra money by acting as agent for brick on a commission basis.

One trouble with this has been that the commissions offered in the past were rather meager and not in the least bit tempting to the dealer. The consequence was that interest lagged and he sold lumber from his shed or his customer came and asked for cement to do some work in concrete.

Perhaps the main reason for this meager commission offering in the past was that the brick men in the old days never got the price they should for their product. They did but little figuring on advertising appropriations and sales expense as an item in cost, consequently the brick was sold at too low a margin to permit of a liberal allowance in commissions to the local agents.

There has been some awakening on this point, and we need more of it. Instead of an offer of 25 cents a thousand to a local retail dealer to interest himself in brick some enterprising brick men are today offering the local retailer a minimum of \$1 a thousand on common brick, a minimum of \$2 for face brick, with a maximum possibility of \$5 or \$6 on the latter. This is getting to be more like it and if the idea is followed up as it should be there can be developed out of it some channels of trade that will perhaps contribute more than anything else to broaden the market for and increase the use of brick in building operations in that great field of home and home surroundings where heretofore lumber has dominated in the trade.

There are said to be about 45,000 retail dealers in lumber and other building material in the country. Part of these are in the larger cities and specialize in lumber, and the brick is handled in the larger cities through other special agencies, so we may eliminate, say, one-third of the number. That will leave us with 30,000 retail dealers who are prospective boosters for brick and, who, if they can all be gotten into the boosting habit will accomplish wonderful results.

Some of these can be found in the community surrounding every brick plant in the country and it is upon these that the brick man may well center quite a lot of his attention from now on to develop definite channels of trade and open the way to bigger business on a broader scale.

Moreover these are the lines that are essential to round out and complete boosting efforts through advertising and salesmanship. You must have the trade connections, and a man on the ground who will look after the business and furnish the customer with whatever information he may require.

It will not always be easy sailing nor will a craft of this kind sail itself. If you want to do business with these people and interest them you must take an interest yourself and keep pushing. Even then there are times when you may find it seems disappointing.

In the artillery school to which reference is made above one of the common phrases is the "probable error." In other words, there are some errors probable with the best scientific plans, therefore, they center quite a lot of attention upon the probable error and how to reduce it.

In seeking to develop a broader brick market what might be termed the "probable error" will be found in the local retailer figuratively going to sleep on the job. There will be jobs he might get that he lets go by which will bring tem-

porary discouragement. The thing to do is, after establishing connections with a series of dealers in the territory in which you should have business, to keep after them, keep pushing the business yourself and keep them from going to sleep and losing jobs they ought to get.

The opportunities before the brick man today are both bigger and better than ever were known before and it is up to the trade to lay hold of it and make the most out of it. The implements to use are, advertising, salesmanship, and specific trade channels and connections. With this equipment it is up to the individual manufacturer to be on the job and up and doing to the end that the brick business may be made a bigger business than ever was dreamed of heretofore.

#### PORCELAIN AND POTTERY IN CHINA.



CHINA IS A COUNTRY of age and tradition in many things and conspicuous among these things of ancient origin and development is pottery. A special report on the pottery industry of Kingtecheng, China, says that the imperial potteries here were established in 1006. Then in the days of the empire pottery was made for the royal family, but since the revolution things have changed and the porcelain now produced is made for high officials at Peking and for the general trade. Kingtecheng is truly a pottery center. It depends for its existence on porcelain industries in which there are engaged about 200 firms, 120 pottery kilns, 1,500 art shops and over 2,000 form factories.

A recent article, by Frank B. Lenz, in Millard's Review, says: "Kingtecheng is one of the four largest towns of China. Technically it is not a city. It is a town, because it has no walls. In reality it is a busy industrial city, with a population of 300,000. Two-thirds of the people are directly engaged in the manufacture and sale of porcelain and pottery. Historically it dates back to the Han dynasty, 200 A. D. It is during this period that we find the first record of the production of porcelain in China, though earthenware vessels were probably produced some centuries earlier.

"The city is located in the Northeastern part of Kiangsi Province, and can be most easily reached by launch and houseboat from Nanchang. Furnaces, warehouses, shops and homes are all crowded together in a hopeless tangle. Great mounds of chipped and defective pottery are piled high along the river bank. These dumps are 30 or 40 feet thick, and represent the accumulated offcasting of the kiln for centuries.

"The location of Kingtecheng is not accident. It became the pottery center of the country and the world centuries ago because of the enormous quantities of excellent clay in the district around Poyang Lake. More than a dozen kinds of clay are found in the neighborhood of the lake, except on the south side: At Chimen, which is just across the border in Annwei Province, there is a whole mountain of fine white clay.

#### Two Kinds of Clay.

"Two very descriptive words are used by the Chinese in referring to the composition of porcelain—Ch'i Ku, or porcelain bone and Ch'i ro or porcelain flesh. The former gives strength and brittleness while the latter adds toughness. Unless these clays are mixed in the right proportions the vessels will either sag or crack when placed in the furnace. Technically the "bone" clay is kaolin or China clay. It is an infusible substance derived from decomposed feldspar of granite. The "flesh" clay is a white, fusible material from a mixture of feldspar and quartz. All these clays are hauled to Kingtecheng in the form of soft, white bricks by small flat-



bottomed boats. Thousands of Chinese boatmen are engaged in the work.

#### Working and Firing Methods.

"After the clays are thoroughly cleansed, sifted and refined they are kneaded together in varying proportions, usually by the feet, and are then ready for the potter. The wet lump of clay is placed on the stand of the potter's wheel, which is a Chinese invention. After revolving the wheel swiftly with a pole the potter deftly forms a vase, bowl, or plate with his hands. The piece is then removed and placed on a long tray in front of the worker, where it awaits the next artisan. Handles and decorations, made in molds, are added and then the whole is scraped smooth and allowed to dry until it becomes ready for the next process—the underglaze decoration. Several basic colors, like blue and red, can be painted on the under glaze. The glaze is next applied in various ways, by dipping, by blowing on with a tube, or by sprinkling. After the mark has been added the piece is ready for the furnace.

Porcelain placed in the kiln to be fired has to be protected in strong, cylindrical, clay vessels called saggers. These trays can be used from three to six times before they are ready for the scrap heap. Every piece of porcelain, as it is set into the sagger, is placed on a small, round, clay chip which has first been sprinkled with straw ashes. This prevents the fusing of the two pieces. In Kingtecheng the only fuel that is used is short pieces of pine wood. It was found that the fumes from coal discolored the porcelain, and, accordingly, its use was discontinued. The wood is transported to Kingtecheng in river boats, often from sources two or three hundred miles distant.

The kilns are large, egg-shaped ovens of yellow brick, 20 feet long by 12 feet high. Because of the intense heat most of them, as well as the chimneys, must be rebuilt annually. Every piece of porcelain is placed in the furnace with great precision and arranged according to the temperature which is necessary for its complete firing. Only certain pieces can be placed at the top of the kiln. The furnace, when full, is entirely bricked up, and the whole contents are kept at temperature of 1,600 to 2,000 degrees Centigrade, usually for a night and day, after which the kiln is allowed to cool off, and in due time the porcelain is removed. It has been found that one kiln keeps about 10 factories in operation. This completes the operation if no other decorations, other than the underglaze decorations, are desired; but if more elaborate colorings are used, further burnings in a kiln take place. In applying other ornamental designs the artist often spends weeks, or even months, in completing a single piece.

#### Classification of Pottery.

Porcelain is classified according to shape as follows: (1) Yuan ch'i., or round ware, ware, which includes cups, bowls, saucers, and plates; (2) Tso ch'i., or irregular rounds, including teapots, vases, and small, round, flat paint and ink boxes; and (3) Tiao hsiang, or irregular, such as images, statutes, and representations of trees.

A very interesting feature of the manufacturing process at Kingtecheng is that the factories produce porcelain according to shape. That is, Mr. Wang makes only round ware, while Mr. Li's factory is devoted entirely to the production of teapots. There is only one plant in Kingtecheng which produces all varieties of porcelain and pottery—the Kiangsi Porcelain Co. It was organized a number of years ago on a modern basis and is a paying concern. Its yearly output amounts to more than \$100,000 Mexican. This company received the grand prize for the best exhibition of porcelain at the Panama Pacific International Exposition in 1915.

Many women are engaged in various forms of porcelain production, such as painting, engraving, and lettering. The

apprentice system prevails throughout the industry, as in every trade in China. It was very interesting to note the artistic ability of a number of small boys engaged in painting birds, flowers, fish and bats—the latter being an omen of good fortune. Wages range from \$0.10 to \$1 per day Mexican, for potters and molders. The artists' wages range from \$0.12 and \$0.15 to \$3 per day. No worker, however, is paid for the number of hours he works; he is paid by the piece or by the job. On the other hand, no artisan must work too long. If a man is found overworking the limit, his fellow workers will set upon him and severely beat him.

According to the revenue collector's statement, between \$5,000,000 and \$6,000,000 worth of porcelain is sold from Kingtecheng every year. Most of this is for domestic use, the Chinese not yet having learned the value of pushing international trade. The total amount of porcelain and pottery exported from China in 1916 was 1,092,081 taels (\$904,570, at \$0.8283 per tael, and in 1917, 1,513,413 taels (\$1,634,386, at \$1.08 per tael).

#### Method of Making Rice-Pattern Ware.

Perhaps the most popular design of porcelain with foreigners is the "ling lung" or rice pattern, found in dishes, cups, and bowls. The Chinese have learned the art of producing the foreign-style dinner sets in this pattern, and are finding a ready market for them. Skill and time are the essential elements in the production of this pattern. The wet clay is first formed into a crude cup or plate on the potter's wheel. After the piece has dried several hours, or a day, it is carefully scraped with a special kind of knife that conforms to the curvature of the vessel. The next step is to cut in the kernel-shaped holes. This is done with a small, flexible steel lance by a skilled workman. After these small apertures have been completed the vessel is ready for the underglaze painting. Decorating finished, the next step is to apply the glazing fluid. This is a thin milky substance of high-grade porcelain in raw, cold form. Sometimes the bowl is dipped, but the liquid is usually put on with a soft wool brush. This operation is repeated 30 times, with an interval for drying, until all the holes are filled. Only about six coatings can be applied in a day. The piece is then fired in the usual manner. Coming out of the furnace, the filled holes stand out as beautiful, translucent designs.

#### TAX TROUBLES.

And besides all the other troubles we have to meet and go through with in the world there is the tax trouble to contend with. Moreover about all that seems clear in the muddle about taxes today is that nobody likes the excess profit tax and it will likely be repealed and some other tax law created to take its place. Probably there will be no excessive profits this year, so in self-defense Congress will have to look after some other means of taxation. So far no one seems able to offer any tax scheme but what has objectors arise. In fact, there is so much objection and wrangling that it becomes plain that people don't like to pay taxes when they know it and feel its hurt. Even the sales tax idea, which is being more widely and ardently advocated than any other, fails to carry in a questionnaire vote taken by the Chamber of Commerce of the United States, which is a bit surprising in view of the endorsement it has received. Now it is plain enough that people are inclined to fight against any tax plan which is not so disguised as to make them unconscious of it. There is no getting away from the stubborn fact that we have a big amount of money to raise for the government and we have to raise it through taxation. So we might as well face this trouble squarely, select and agree upon some system that seems equitable and comparatively easy of operation, and have the thing over with.



## CLAY STORAGE WITHIN THE FACTORY.\*

By T. W. Garve.

RAW CLAY storage building is not a necessity for a clayworking plant, yet "the clay storage within the factory" is essential and modern plants are not built without such.

To insure continuity of operation it is necessary to have a supply of crushed and ground shale or clay on hand to bridge over breaks and delays and to keep the machinery running ahead of the bin. It is well for the superintendent and for the men, to know in the morning that there is enough clay supply on hand within the factory to see the day through for production. Besides, any further handling and storing of clays will improve the quality of the clay by intermixing of the particles and their exposure to air.

Bins employed for such purposes are usually built overhead. This will put the storage out of the way, and allow for passage below and for the installation of feed to the grinding or pugging machinery.

For delivering raw shale or dry lumpy clay to the factory it is well to dump the contents of the car into a pocket at the

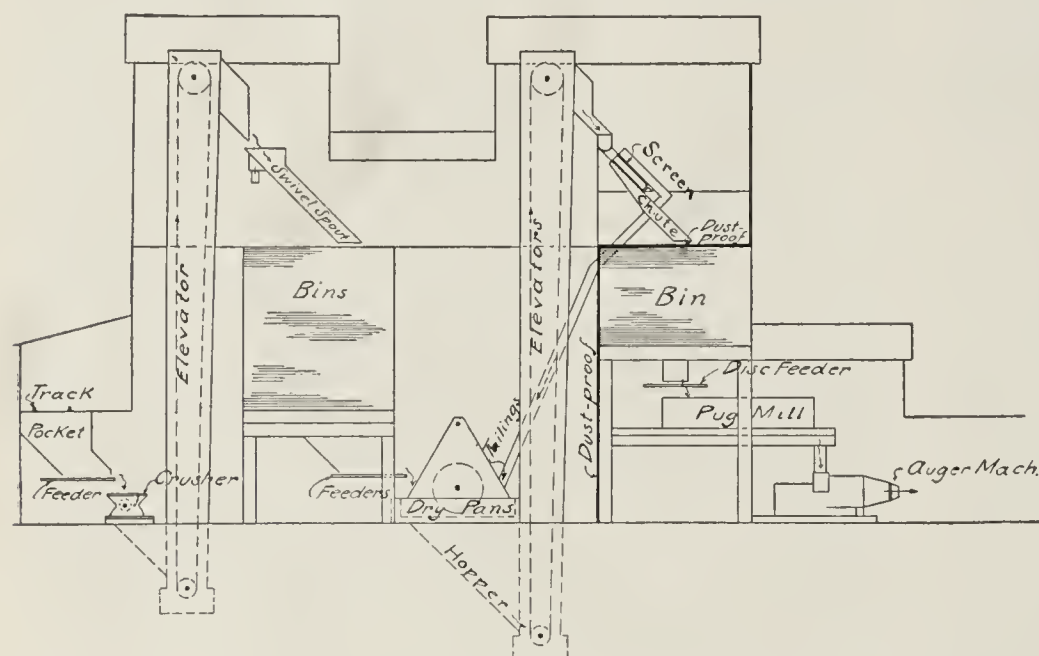


Fig. 1.—Arrangement for storing crushed shale and ground shale.

bottom of which a plate feeder is operating to insure a steady uniform charge of material to the crusher (or dry pan).

If a crusher is used ahead of the dry pan it is proper to place a storage bin between them for keeping crushed material on hand. The crushed material can be fed out of such a bin by means of a reciprocating plate feeder as before or by a disc feeder. The ground material should be stored again above the pug mill with a disc feeder to permit of fine adjustments.

The amount of water required for pugging can also be regulated here close to the feeder. To insure uniformity in the water pressure, a tank can be set up above the mill and the water be piped down. Some plants have worked out a scheme of using two valves in the pipe line, one for maximum opening and complete closing and one valve ahead of it for final adjustments; or a so-called "poidometer" can be used which weighs and regulates the amount of clay and water delivered to the pug mill.

Storage bins may be circular or rectangular. A circular bin can be built of steel plates as a cylinder set on a properly constructed platform or floor, or a standard galvanized steel tank can be used with a hole cut into its bottom for the pass-

age of the clay to the cylinder of the feeder. Circular bins can also be built like water tanks of wooden staves and iron hoops.

Square or rectangular bins require more material for their construction than circular bins but they often fit better into

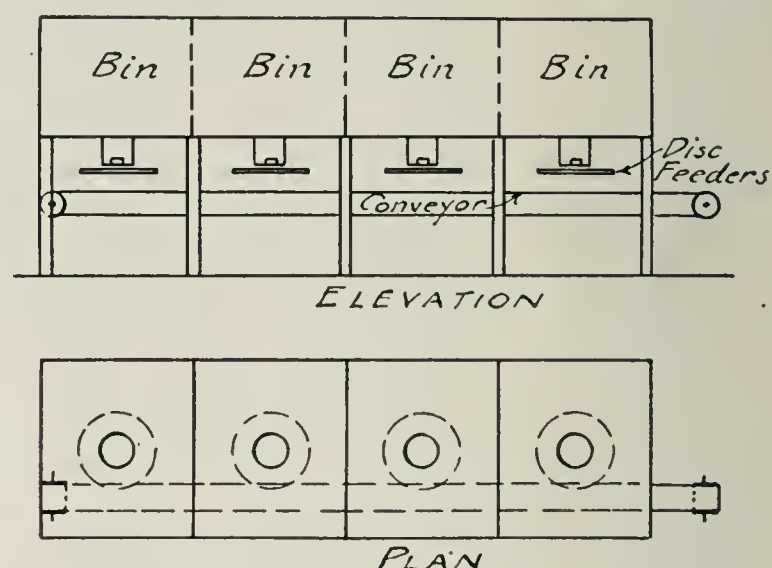


Fig. 2.—Arrangement for storing and mixing.

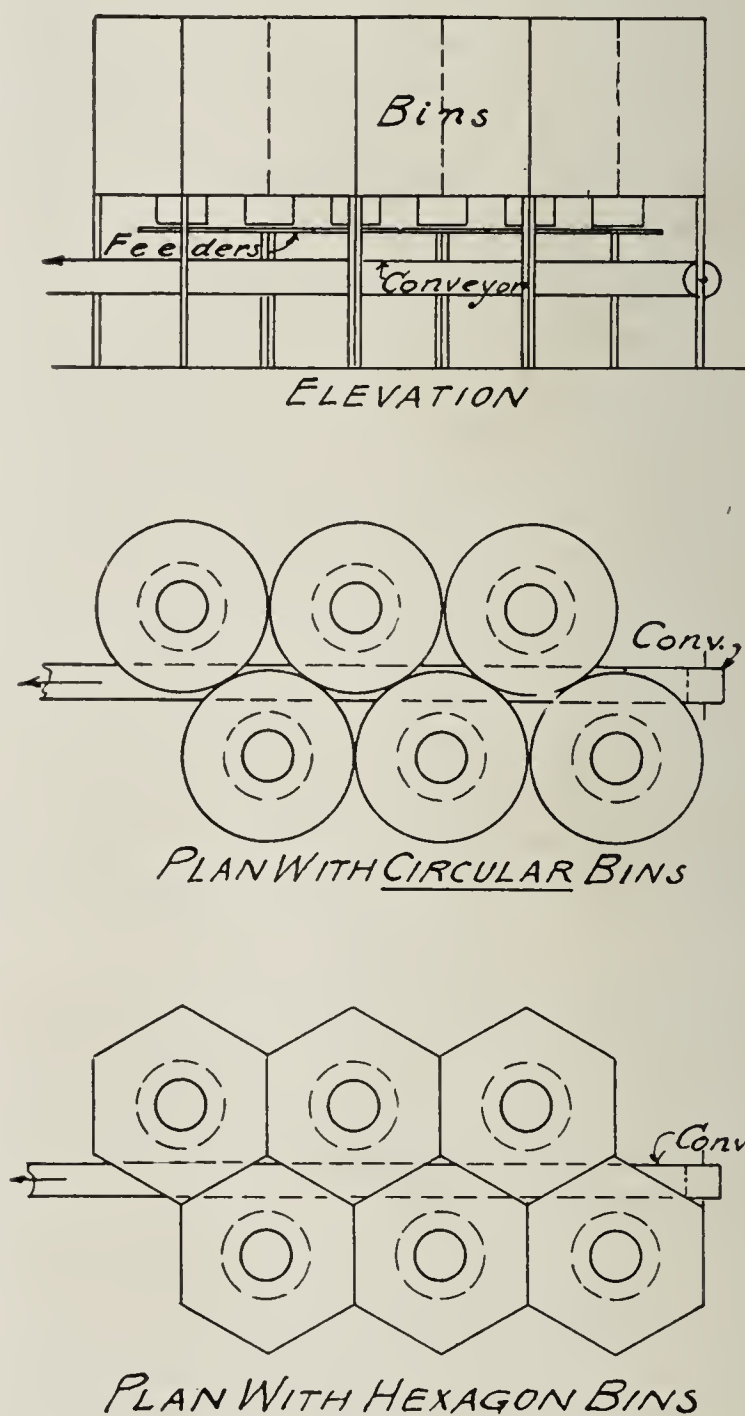


Fig. 3.—Arrangements for storing and mixing.

their surroundings and can be made part of the building. They can be framed and sheathed structures, or cribbed plank laid flat and spiked together. Frame bins should be properly tied with tie rods both ways to prevent their distortion and bulging.

Circular as well as square bins can also be built of reinforced

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concrete, or posts and floors can be built of reinforced concrete and an independent frame or steel bin set on top of it.

#### Examples of Dry Clay Storage.

In figure 1 we have a typical arrangement for a brick or tile plant. There is a pocket for the raw material and storage provisions for the crushed shale as well as for the ground shale.

Where a number of different clays are to be used, as in the manufacture of fire-brick or refractories or pottery, a

a car of the side dump type. Such bins can be square or circular or hexagon. Hexagon bins will utilize the space to greater advantage than circular bins and will reach farther over the conveyor.

Figure 4 shows bins arranged semi-circular around an elevator. The bins can be emptied by feeders as before or by a car (which can be a measuring car) running on a semi-circular track, to be taken to the pit or pug mill.

In figure 5 we have a larger number of bins arranged in three rows with a track below each. The bins may have a hopper bottom with a slide gate as shown or cast iron outlets may be used as illustrated in figure 6 which are made with either single or double swing-gate. Fine adjustments in the feeding are also accomplished by arrangements as

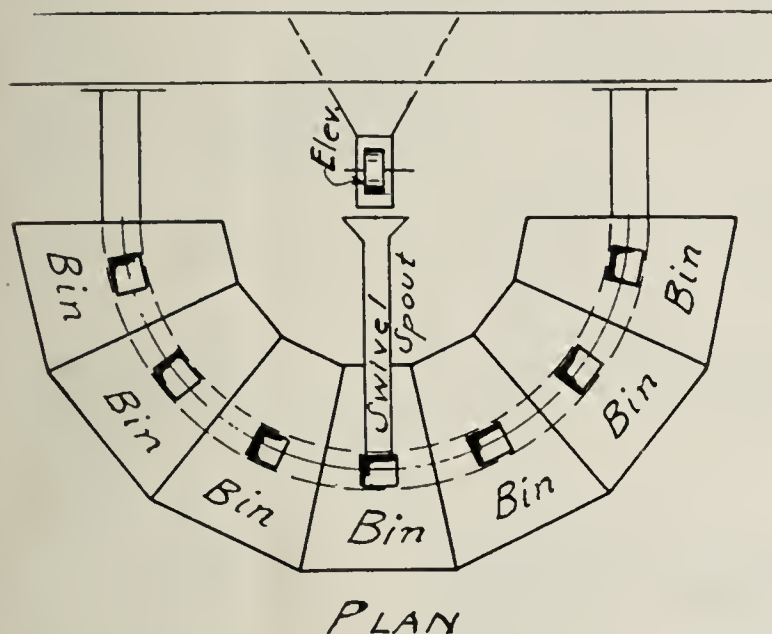


Fig. 4.—Arrangements for storing and mixing.

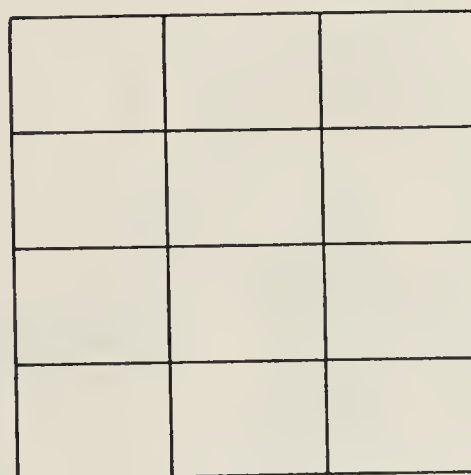
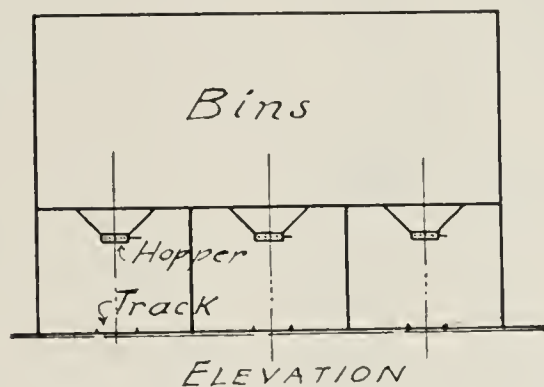


Fig. 5.—Clay bins, assembly and detail.

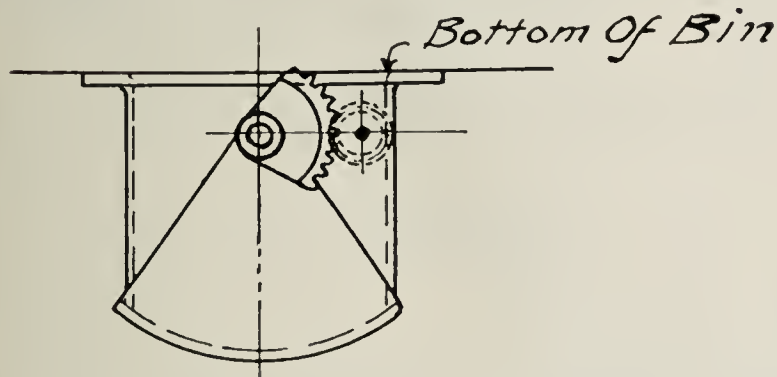
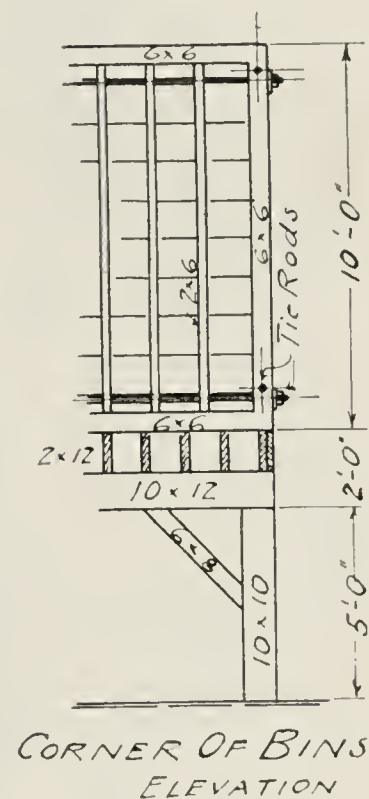


Fig. 6.—Gate for bottom discharge.

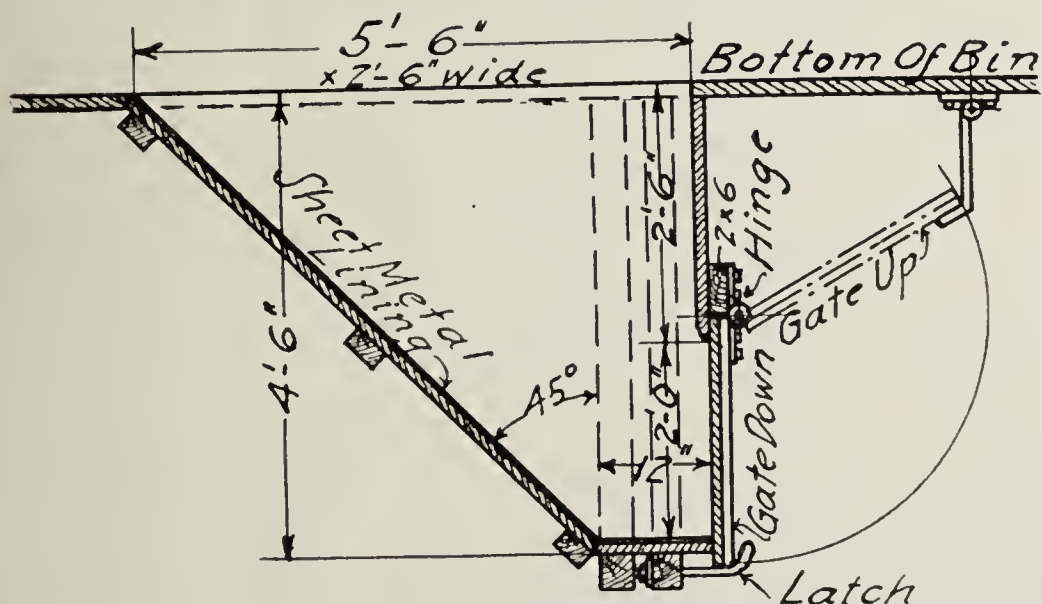


Fig. 7.—Bottom discharge of bin.

corresponding number of bins will have to be built, and they can be arranged in a single row or double row or in a semi-circle depending upon the layout of the plant and the number and size of bins, as seen in the following sketches.

In figure 2 we have one row of bins with a disc feeder at the bottom of each bin for supplying the proper quantity of clay to the mixture on the belt.

In figure 3 there are two rows of bins being charged from

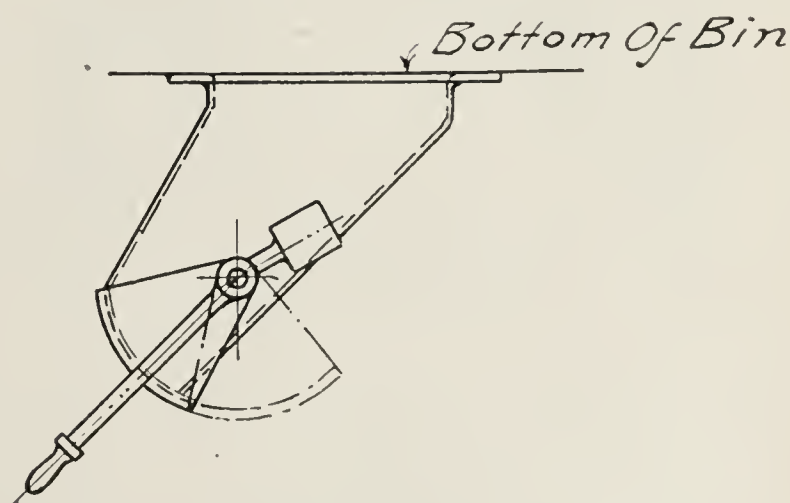


Fig. 8.—Under-cut gate for bottom or side discharge.

shown in figures 7 and especially 8 which can be used for either bottom discharge or side discharge of bins.

In figure 9 we have an illustration of a bin with an inclined bottom and a side discharge. Such a bin will hold less clay than one with a flat bottom. An inclined bottom will insure a more uniform sliding, while a flat bottom on the other hand will give additional storage at the corners which can be shoveled out or scraped down in an emergency, should the



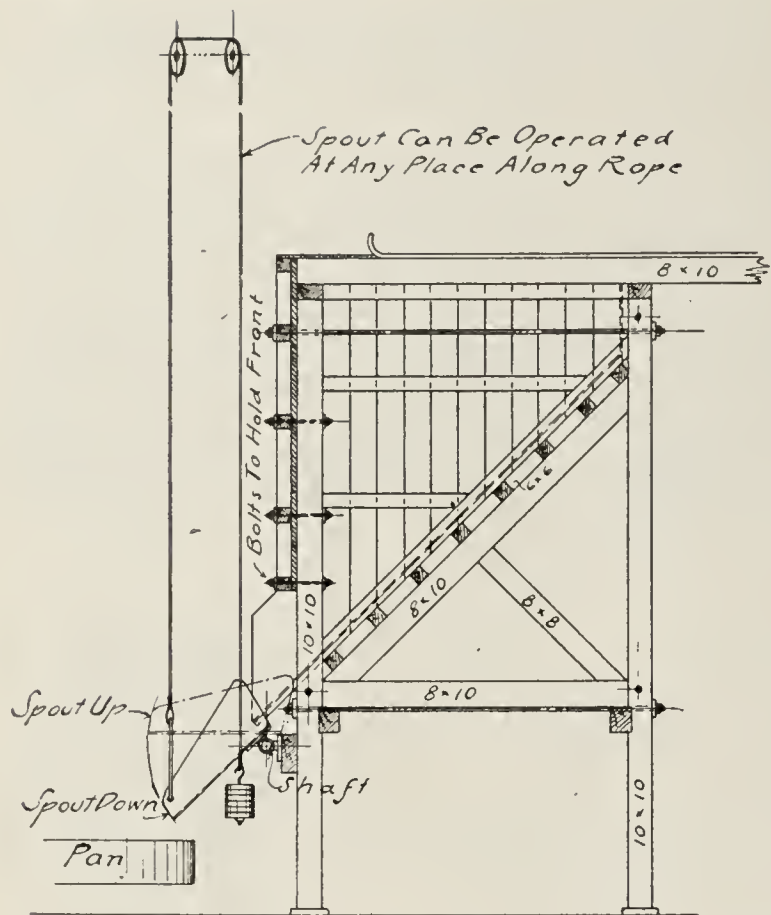


Fig. 9.

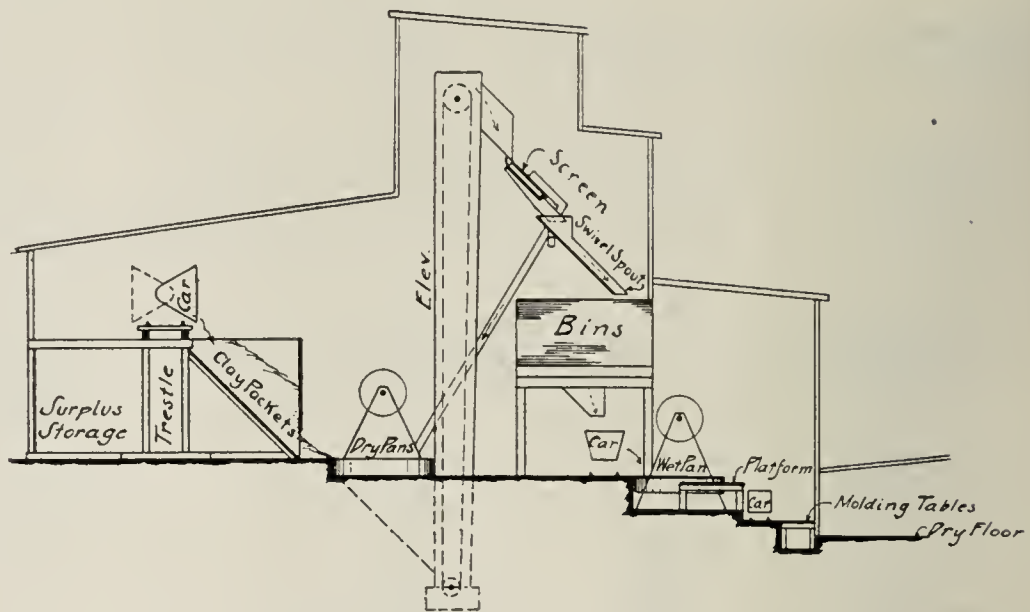


Fig. 13.—Storage in a refractory plant.

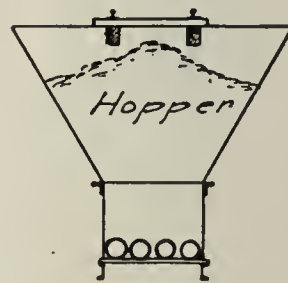
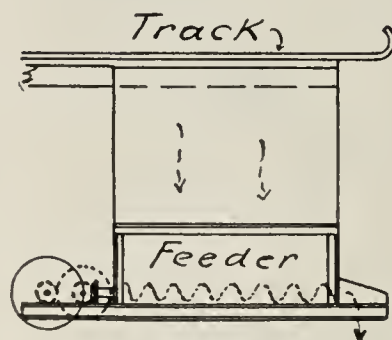


Fig. 14.

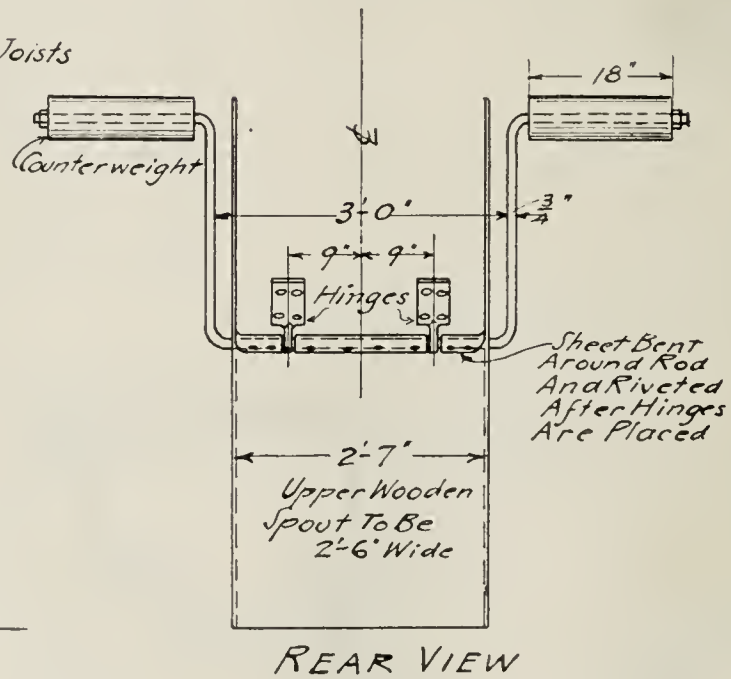
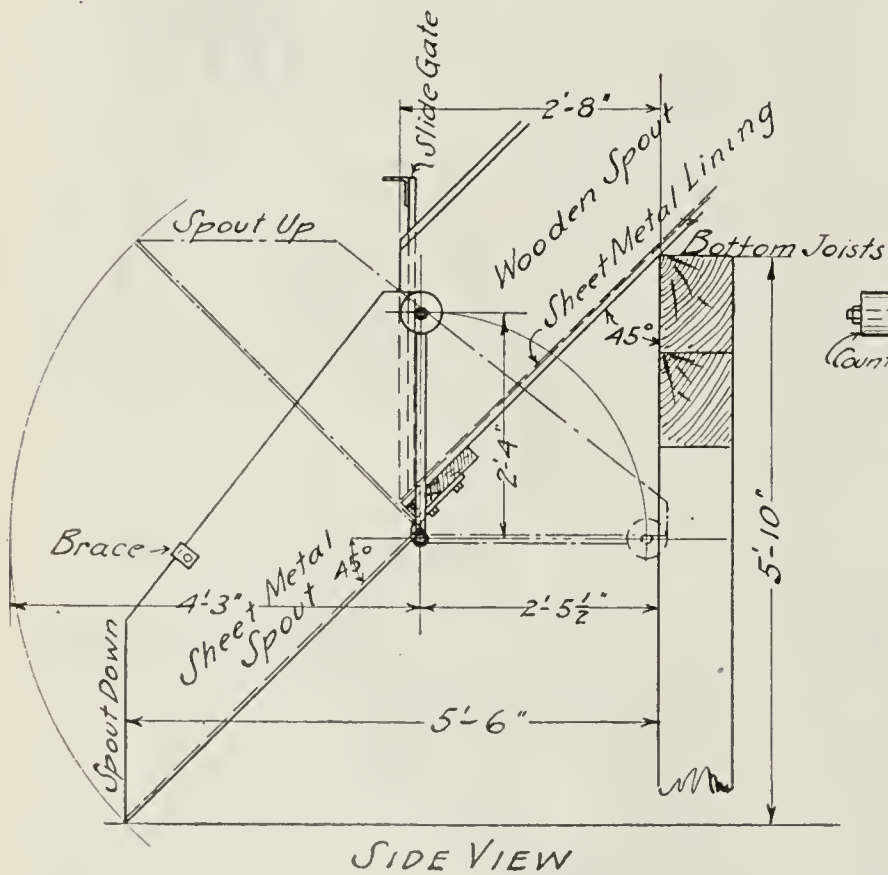


Fig. 10.

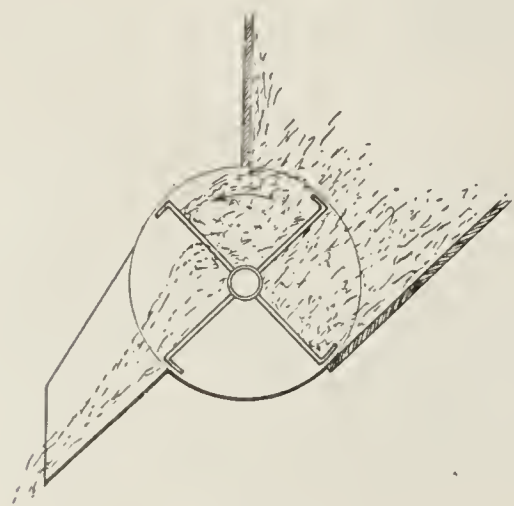


Fig. 11.

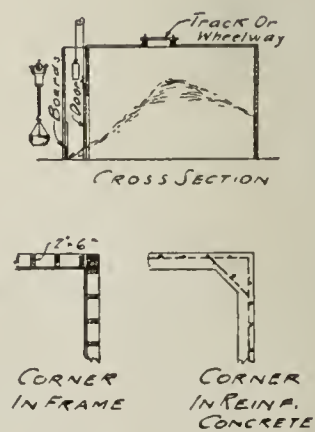
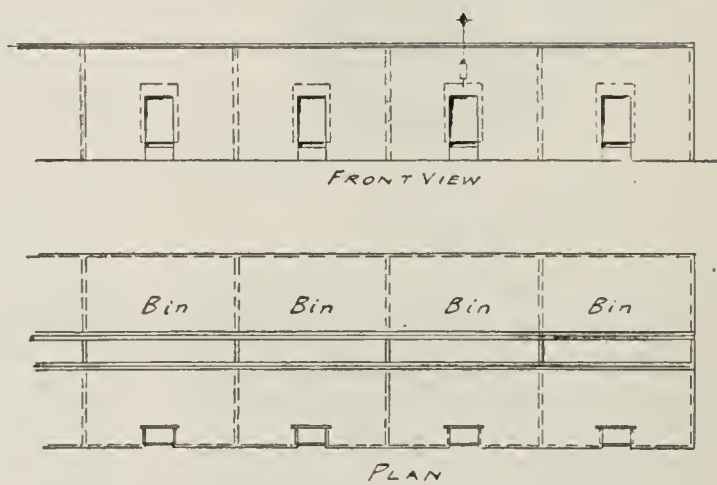


Fig. 12.



supply run low. This statement holds good for crushed but not always for finely ground material since some shales which are slightly moist or oily will be packed down by the weight above and the unavoidable, though slight vibrations of the bin structure so that the material from the corners would have to be broken loose and be crushed again. The flow of clay is stopped by merely raising the front spout high enough. Another similar spout, but with an additional slide gate behind for shutting off the supply or for regulating it, is shown in figure 10. Both these gates are counterbalanced.

We have deemed it advisable to go into some details of

etc., requiring a number of clays and variable mixtures. There is a place in front of each bin for scooping up the material and filling it into a wheelbarrow or truck or into a traveling tray of a mono-rail carrier. For large bins, the rail can be extended into the bins. For this system the material can be weighed at each bin by a scale attached to the tray. If shoveled into wheelbarrows the amount is weighed near the scoop of the mixing machine where the batch is made up. Such bins can be built of frame or of reinforced concrete.

Figure 13 shows the arrangement for storing the clays in

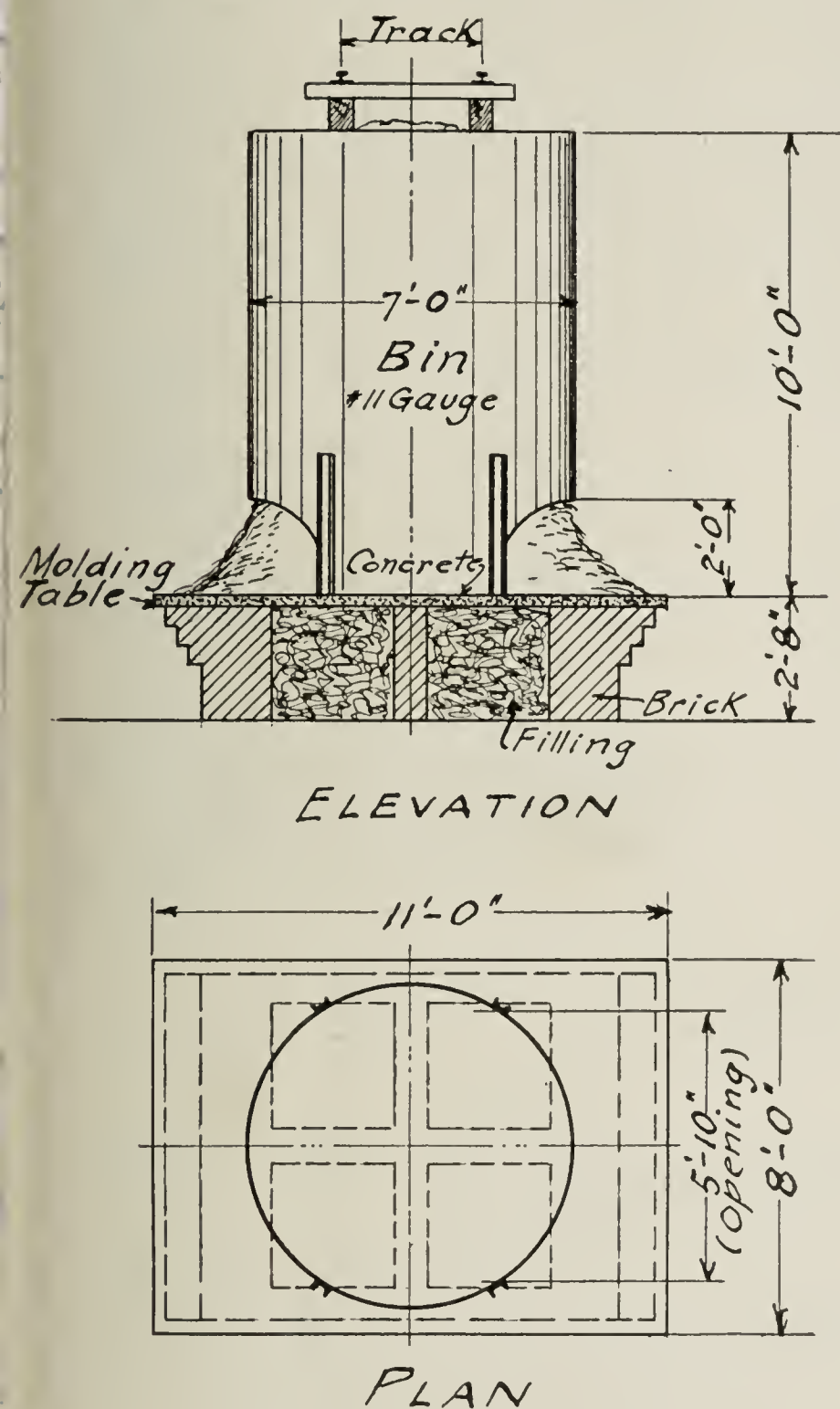


Fig. 15.—Storage above molding table.

construction and supply dimensions on the drawings since a good deal of such equipment could be made up in the factory in a manner as shown or any similar manner to suit the requirements.

In figure 11 we have shown a rotary drum or rotating compartment feeder at the end of a bin spout for feeding a pan or other machinery. By making the drum long enough and introducing side partitions (not shown) we can mix two or three kinds of clay and feed them automatically.

In figure 12 we have bins built on the ground or floor, filled from above, intended for fire clays and grogs as used in the manufacture of special refractories, pottery, saggars,

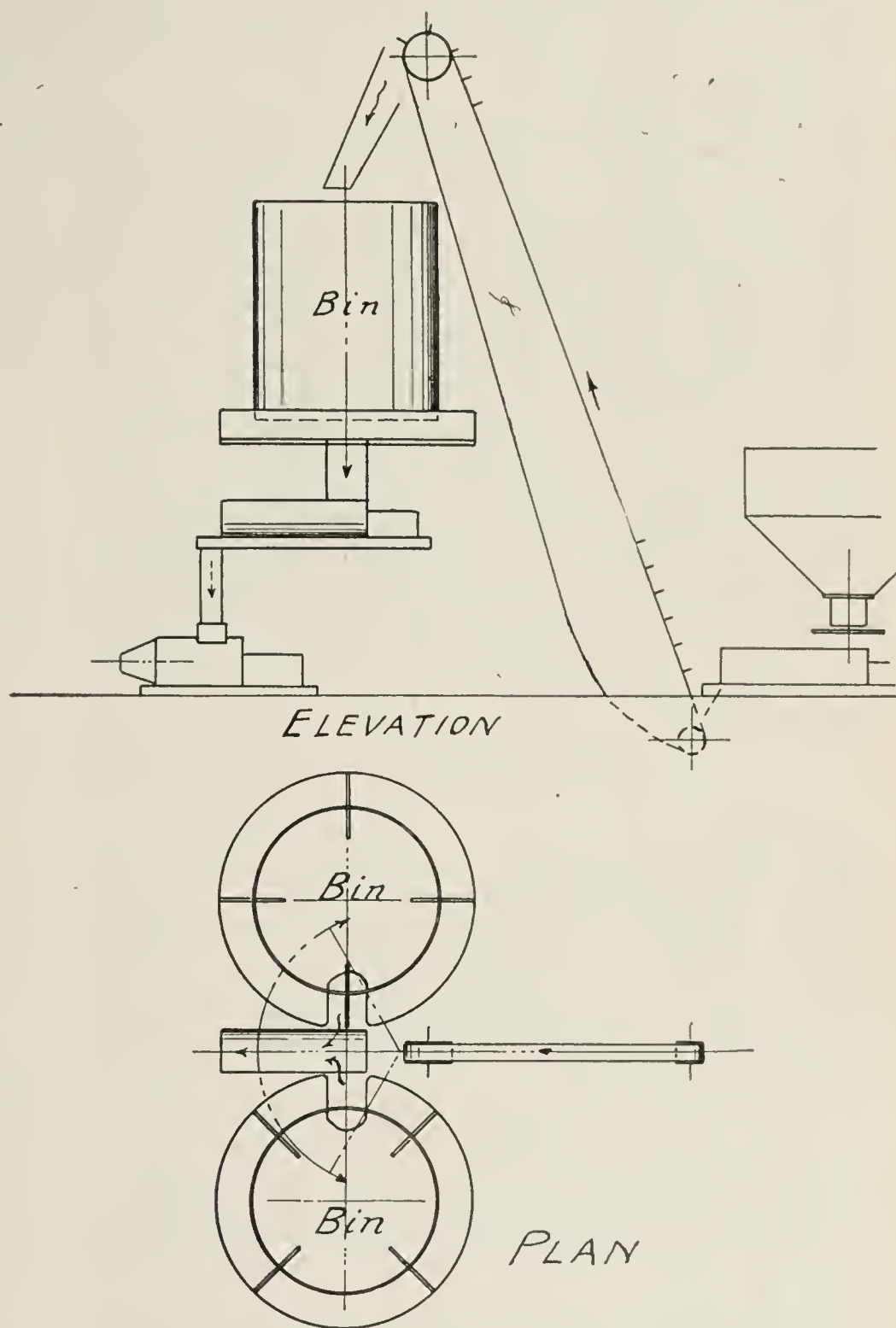


Fig. 16.—Wet clay storage for continuous operation

a small plant for making hand moulded fire-brick and refractories. The drawing explains itself.

#### Examples of Wet Clay Storage.

So far we have been dealing with dry materials but when it comes to the handling and storing of wet clays the problem is more difficult.

While refractory and pottery plants are storing wet clays for the purpose of ageing to improve the working conditions and quality, the storage supply is but a secondary consideration.

Where wet or moist clays are used in the manufacture



of brick or tile, they are usually dumped by means of a bottom dump car or by a dumping device into a hopper above a screw feeder as shown in figure 14. There is usually but enough storage provided to last until the return of the car. A screw feeder is adaptable for feeding wet clays where the ordinary disc feeder would not do. If very sticky clays are worked, they would bridge over in a hopper with inclined sides as shown, and it will be necessary here to build the hopper straight.

Figure 15 shows the storage bin for the prepared wet material above the molding table as it is used in silica brick plants.

In figures 16 and 17 finally we have illustrated a suggestion for storing wet clay in a continuous operation for the manufacture of drain tile.

It has been observed that from some shales the first product in the morning, taken from the material which remained in the pug mill over night, does not give the very objectionable ragged ends in the cutting. The duration of one night is evidently sufficient to get all clay particles sufficiently softened to produce the better ware, and it would unquestionably pay in many cases to introduce a wet storage bin without breaking the continuity of the operation.

We have illustrated such an arrangement, in the last two drawings, with two bins and a feeder at the bottom of each. The two bins can be filled and emptied alternately from day to day allowing sufficient storage for each, or both bins can be emptied and filled at the same time. If the capacity of the bins is drawn during the day, the new material, reaching the bottom at the end of the day's run, will remain in the bin over night to be drawn out the next day, and so on. To eliminate the wet clay elevator, the dry material can be elevated to a pug mill above the bins.

While wet pans might accomplish the same, it is obvious that the above system eliminates the great power consumption of wet pans.

#### BRICK PRICES.

WE FIND conflicting ideas and reports about the tendency of brick prices. There is not getting away from the fact that quite a lot of pressure is being brought to bear to grind down brick prices. Moreover, the tendency in the market is downward, but while some predict a fairly sharp decline in prices, others contend that this is impractical and that brick prices cannot go much lower and leave a profit because of fuel cost, freight rates on fuel and material, and labor cost.

Fire brick has perhaps shown more decided price breaks than building brick. A review of business conditions by Federal Reserve Agent at Philadelphia, says that fire brick are in slow demand because of dull times in the metal industries, and prices have undergone two revisions since December, taking them from the peak of \$55.00 down to \$40.00 and \$45.00, while face brick have been reduced approximately ten to fifteen per cent.

Common brick prices show an average from about twelve to twenty-five dollars depending on location and demand, and the face brick prices are in keeping.

As to common brick prices, it may be said that local conditions will be a strong factor in these. The relation of demand to supply in a given territory will affect market conditions, though of course the logical foundation for price is cost plus a fair margin for profit. One trouble is efforts to maintain too high a price lead to the use of old brick and to a stronger tendency to utilize hollow tile instead of common brick.

There are many different ideas and factors involved and about all one can get out of the situation definitely is that pressure is being exerted by the buying public for the brick industry to get its prices down to rock bottom to stimulate more buying and active building.

#### KENTUCKY NEWS NOTES.

HENDERSON, KENTUCKY, from which hails the new president of the Kentucky Association, furnishes a remarkable showing in pioneers in brickmaking still active. The Klutey-Kleymeyer Brick and Tile Co., Henderson, was founded in 1865, by Fred Klutey, Sr., and the senior Henry Kleymeyer. These two pioneers are still alive and active, Mr. Klutey being 78 and Mr. Kleymeyer 80. Out of this original partnership there was developed through the second and even the third generation is now also taking a part, three brickmaking plants at Evansville, two at Henderson, one at Louisville, and one at West Point, making seven plants altogether in which three generations of the Klutey's and Kleymeyers are at present active. At present F. C. Klutey and H. C. Kleymeyer both have sons actively connected in the business, and their fathers are still in harness.

Speaking of conditions at Evansville, H. C. Kleymeyer says that they have about three-quarters of a million brick on hand which is not much for them because they usually carry more.

Just across the river from Louisville a new brick plant is being developed by the Falls Cities Hydraulic Brick Co.,

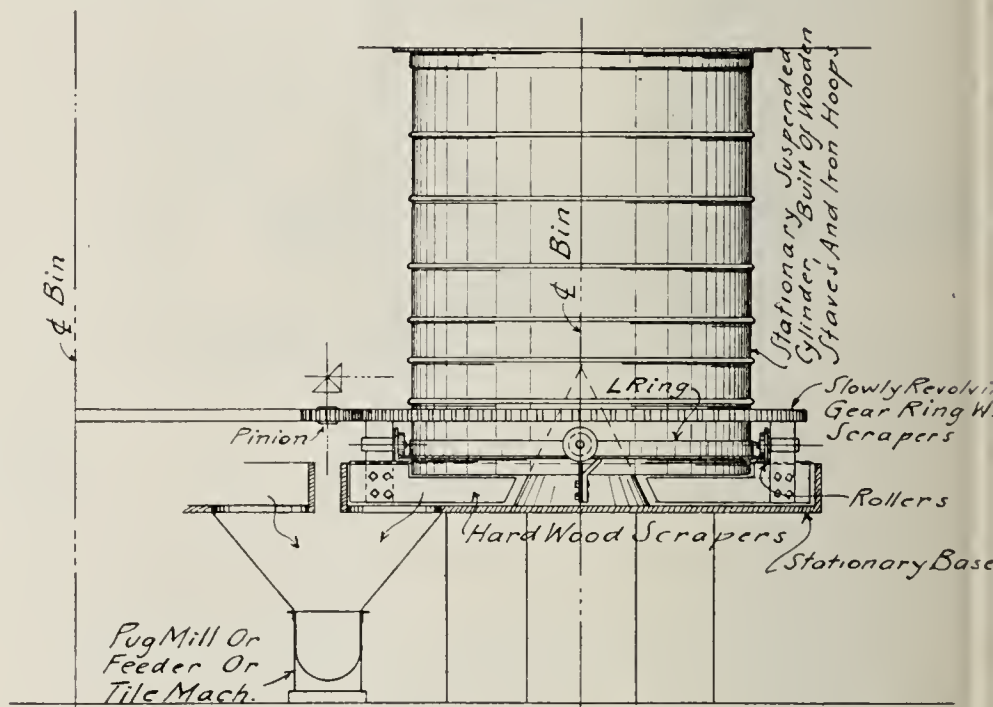


Fig. 17.

Jeffersonville, Ind. This concern is equipping a new stiff mud plant which they expect to get in operation this spring with a capacity of eighty thousand.

A. H. Schnieder, Nicholasville, who is one of the pioneer hand yard operators, says that he is putting in steam power equipment now to make soft mud brick, which he expects to have started in May or June and this will increase his capacity somewhat. He reports about 150,000 brick on hand at present and is not producing any more at this time.

L. Ruby, who operates a dry press brick plant at Providence, Ky., says that building prospects are in an uncertain stage at present. If contemplated work in that section goes through there will be plenty doing, but at the present time there is not much activity and there is a good deal of dissatisfaction among farmers about prices.

J. D. Bobbitt, of the Madisonville (Ky.) Drain Tile Co., says that the drain tile business has been very poor this year because farmers are in a discouraged attitude. In addition to drain tile they have been making a 4x8x12 hollow building tile which they have developed a local trade in for hollow building purposes in competition with lumber and other building material, furnishing the tile with both a smooth and a texture face. It has taken some little time to get it



introduced, but they are making fairly good headway with it now. Also he says they are now making a regular 5x8x12 tile.

L. L. Richardson, of the Barbourville (Ky.) Co., says they have just installed an Underwood Producers Gas System. They have only operated it a little, not enough, perhaps, to test it out thoroughly, but he says he is well pleased with it so far. They have a small stock of brick on hand.

The Rose Hill Brick Co., at Rose Hill, Va., has changed hands, the property having been purchased by B. F. Kincaid, of Ewing, Va., is now known as the Kincaid Brick Plant. Mr. Kincaid says he is a farmer and bought in the brick plant because it was operated by his son, who died recently, and he prefers to sell it. However, if he is not able to sell it and must operate it, he wants to operate it at a profit, therefore he came down to meet with the other brick men at Louisville to get acquainted. He says they are not operating now and have about fifty thousand brick on hand and everything in good shape to operate with a capacity of forty thousand, which can easily be increased to sixty thousand.

A. G. Shields has succeeded the late A. F. Kleymeyer as manager of the West Point (Ky.) Brick Co. plant. He says they are getting things shaped around very nicely and are looking forward to a busy year.

Andrew P. Hillenbrand, Sr., who is one of the pioneer brick men of Louisville, is now operating as the Progress Pressed Brick Co., out on Goss avenue, Louisville.

H. Herple of the Southern Brick and Tile Co., Louisville, says there are some indications that the building activity will be better comparatively in Louisville than in other cities because of the industrial growth going on which not only makes a need for factory buildings, but also calls for additional housing.

L. Ruby, of the Providence (Ky.) Brick Co., who has given considerable thought to the subject, expresses the opinion that the logical basis for stabilizing brick prices will be found about 40 to 50 per cent. above prewar prices. The basis for this logic is on the cost of labor and fuel as compared to prewar days.

M. J. Bannon, of the P. Bannon Pipe Co., Louisville, manufacturers of sewer pipe, brick and hollow building tile, says the best news of the day for them is in the relief from some of the fuel burden by lower prices on coal and more particularly by a better coal product. Some of the Coal they bought at \$10.50 a ton, he said they have piled up now and regard it as practically so much waste because it is not fit to burn. Plenty of good coal is available at much lower than the peak period in coal, but the freight rate is about double prewar days and this makes the cost of delivered fuel higher on the same mine basis as prewar days, and meantime even at the present lower figure the mine basis is higher than prewar. At that, however, it is considerable relief as compared to what the trade was up against for a while.

#### OUR INTERNATIONAL TRADE.

Our brick and other clay products do not play a very important part in the export trade but the present magnitude of our export trade is such as to impress its importance to the welfare of the country to everybody. According to the figures of the Bureau of Foreign and Domestic Commerce our exports for the calendar year 1920 amounted to \$8,228,400,499, while our import amounted to \$5,279,391,364.

This gives us an international trade running well about a billion dollars a month with a balance for the year in our favor of \$2,949,009,135. This balance itself is more than the total of our imports in prewar days, and it is not so far back to the point where even our total export did not amount to the present balance in our favor.

#### ELECTRIC HEATING IN CERAMICS.

INDUSTRIAL ELECTRIC heating which began with the melting of iron in electric furnaces has proven so successful that its application has spread rapidly. Almost every industry that uses heat is a logical plan for electrical heating and the glass industry is, therefore, affected. In fact, many installations have already been made for the treating of glassware.

A 72 KW furnace is used for annealing glassware, at a temperature of 1200 degrees F. This furnace is 22 inches wide, 10 feet long and 5 feet high, of the overhead conveyor type. Several thousand goblets were annealed, the goblets being placed in metal containers consisting of nine trays, each tray holding 25 goblets, five per row and five rows deep.

Sixty-five goblets were selected at random during the test, care being taken to select them from different parts of the furnace, and tested in a spectrodvopr. Sixty-four showed absolutely no refraction of light rays and were passed as A-1 grade. One goblet had almost imperceptible refraction of light rays and was, therefore, rated in this test as B-1. The physicist making the test stated that compared with their general run of product, this one goblet would ordinarily have been A-1 grade. In their natural gas fired annealing lehrs, they have very few strictly A-1 grade, a majority being B-1 grade, but a quantity also for C-1 grade, the lowest possible grade.

All glasses passing through the furnace were bright polish finish. Glasses through the natural gas furnace have a slight blue finish. Manufactured gas presents a deposit greater than natural gas. Fuel oil deposits a decided white power finish necessitating washing and polishing, and is therefore prohibitive.

#### Fusing Bifocal Optical Lenses.

This work must be done at a very critical temperature, besides requiring a uniform temperature to prevent resulting strains, and a clean atmosphere to prevent spoiling the polished face of the lenses being fused. The lenses are placed on small plaques, four per plaque and each plaque covered with a vitreous enameled steel square cup, and fed automatically through the furnace chamber and discharged into an annealing lehr. The furnace chamber is in four sections, two sections 18 inches long, each maintained at a different temperature. The annealing lehr is 60 feet long.

When the work was carried on originally through gas fired furnaces, the loss was approximately 20 per cent., whereas the average loss now is three to four per cent. electrically treated.

#### Vitreous Enameled Kitchen Ware.

Tests were made to determine the practicability of using an electric furnace for vitreous enamel kitchen ware. Thirty-six miscellaneous pieces were fired in the furnace, and a most careful inspection showed that the results were perfect as to polish, absence of pitting, and general smoothness. Due to the ease with which a definite temperature could be maintained, it was a very easy matter to secure results of the highest order, with almost no attention.

#### LIME PRODUCTION IN 1920.

THE U. S. GEOLOGICAL SURVEY report gives the preliminary figures for lime production in 1920 as 3,550,000 short tons, valued at \$33,518,000. The bulletin indicates that the demand for building lime was greater in 1920 than in 1919, and though the demand fell off a little in the last three months of the year it is thought that the demand for building will create a good volume of trade in building operations during 1921.



## THE RAILROAD TUNNEL KILN.

By A. W. Buckingham of Russell Engineering Co., St. Louis, Missouri.

FOR A LONG time the efforts of manufacturers were concentrated on developing and improving the periodic kiln to the point of highest efficiency.

Recently, however, the tunnel kiln has attracted considerable attention and seems destined to take the place of the older kiln in many plants.

Uncertain labor conditions of the last few years, together with soaring prices of fuel have brought home the fact that something must be done to improve the antiquated and wasteful firing methods which have caused prices of the finished product to become almost prohibitive.

### History.

Although the car tunnel type of kiln is still very much in its infancy as far as its application to the ceramic industry is concerned, the fundamental principles of its design have been known for a long time.

According to our best information the first kiln of this kind was built in France in 1854 for burning brick and hollow tiles.

Patents on tunnel kiln in the United States date back to the Civil War period but this method of firing has made its greatest strides in the last ten years.

Today there are tunnel kiln operating or under construction in potteries, refractory plant, common clay brick and building tile plants and electric carbon plants. Even glass plants and the steel industry have found a use for them. The above probably does not represent the entire field, but these are the principle places in which it has been put to use, to date.

### The Single Tunnel Kiln (Zwermann).

Probably the first thing that attracts attention is the length of this type of kiln and its comparatively small cross section.

This long kiln is simply a brick tunnel with straight side walls and a fairly flat arch. The cross section is uniform in size throughout the length except for a slight widening at the high heat zone, where the fire boxes or burners are located.

A track is embedded in the concrete foundation and on this are run the kiln cars carrying the ware to be fired. A mechanical pusher at the end is powerful enough to move the entire train. When a new car is inserted at the entrance, one is pushed out at the other end.

Tracing the progress of any one car we find that it enters the tunnel cold and is gradually pushed forward toward the fire boxes where it encounters the highest heat. After passing through this heat it moves on toward the exit of the tunnel, gradually cooling off. When it reaches the end it is cold enough to be taken outside without injuring the ware.

A return track on the outside enables the car to be pushed back to the entrance and reloaded.

This in a general way is the continuous process that goes on day after day and month after month.

Advantages and savings of tunnel kiln firing are general and readily can be appreciated by anyone in the ceramic field.

The writer has attempted to enumerate the principal advantages and the important factors that contribute to these advantages.

A least eight points stand out prominently in this connection:

1. An opportunity for a better plant layout.
- 2 and 3. A saving on fuel and labor.
4. Lower cost of maintenance and repairs.
5. Better heat control.
6. More uniformity in finished ware.
7. Reduction in burning time.
8. Percentage of loss reduced.

1. Considering the opportunity for a better plant layout we find that the tunnel kiln occupies less space than a group of periodic kilns of equal capacity having regard to:

- (a) The space actually occupied by the kiln.
- (b) The space required for fuel storage and handling.
- (c) The space needed for labor operations.

A further point of interest is the fact that the entire firing operation at a constant heat eliminates the wastage of heat desirable features due to bad weather conditions.

2. A real saving may be accomplished. The continuous operation at a constant heat eliminates the wastage of heat that exists at start and finish of each burn in a periodic kiln. The gas of combustion is made use of in watersmoking and preheating the ware rather than being allowed to escape to the air at a high temperature. Insulation in the walls and arches reduce radiation losses.

3. Labor saving is another important item. Several factors go to make up this saving.

(a) Skilled kiln setters are not necessary. Loading a kiln car is a comparatively easy task as compared to setting a large kiln. Unskilled labor may be used for loading and unloading kiln cars.

(b) Working conditions are better. Men are not obliged to go into a hot kiln.

(c) Fuel storage and handling is centralized, eliminating expensive wheeling.

(d) By proper location of kiln with respect to presses, dryers, and shipping room the general labor operations are reduced to minimum.

4. Maintenance and repairs on a periodic kiln caused by frequent heating and cooling is no small item in a year's time. The chief sources of trouble are cracks and deformation of walls and arches.

The constant temperature maintained in a tunnel kiln results in small maintenance expense from these sources.

5. Better heat control in a tunnel kiln is due to the fact the burners are few in number and concentrated in one place. The temperature in the burning zone is the only one requiring attention. Once this is at the desired point, the temperature in the other zones are adjusted automatically. A pyrometer equipment installed serves as an aid to the operator and also is a check on his work.

The time schedule is fixed by the speed at which the cars are run through the kiln.

The small cross section of the tunnel permits transfer of heat from combustion chambers with minimum variation in temperature.

6. Each carload of ware in a tunnel kiln meets the same firing conditions for the same length of time. Other factors being equal, this results in a more uniform grade of ware than it is possible to produce in several different kilns of large proportions.

7. The tunnel kiln continuous method of heating and cooling of small carloads of ware constantly on the move has resulted in a reduction of total firing time. This reduction is generally accepted as being 1-3 to 1-2 of the time required in a periodic kiln.

8. Minimum handling of the ware, absence of cracking or deformation of bottom pieces of ware in a large pile and better heat control, all contribute to a reduction in the percentage of loss.

\*Read before the Annual Convention of Illinois Clay Manufacturers' Association held in Chicago, March 8th and 9th.



Sagger expense is reduced for the same reasons.

The twin tunnel kiln, which is a compact structure, has some advantages over two single tunnel units in initial cost and labor and fuel saving. The main fuel saving is the use of the heat from the cooling cars in the kiln itself to preheat the incoming cars.

The labor saving in this kiln over the single kiln is the elimination of the outside return track.

#### Kiln Car.

The construction of the kiln car and the manner in which the ware is piled on same contribute greatly to successful firing.

The type of car now in most common use is a heavy cast iron or steel car equipped with roller bearings in the hub of the wheels.

A permanent deck of heavy tile of high grade material is constructed on top of the iron car. Upon this deck a permanent superdeck of perforated tile is laid. These perforations provide both longitudinal flues and vertical ports.

A car of this type allows the gases of combustion in the hot zone and the currents of air set up in the other zones, to circulate freely underneath and up through the pile of ware on the car. By this means all pieces receive practically the same heat treatment.

#### The Pyrometer System.

Pyrometer couples placed at various strategic points in the arch and sides of the kiln connected to indicating instruments in the office give an accurate record of the temperatures in the different zones and furnishes the information to guide the kiln tender in regulating his fires. By the use of an automatic recording instrument a ribbon record of the temperatures at one or more points may be secured throughout the entire day. This service is a check on the kiln tender's work.

#### Cooling Flues, Etc.

A question which usually comes up in a discussion of a paper of this kind is "how are the iron parts of the car kept from being damaged by the heat?" Sand seals on the side of the kiln, together with the iron cool air flue underneath the cars accomplish this purpose. The seal keeps the hot gases from penetrating to the bottom of the car and the flue serves to keep the iron parts of the car cool when passing through the hot zone.

#### The Pushers.

The train of cars is moved by a push on the end car. Several good types of pushers are on the market. Those in most common use are the endless chain and dog type and the horizontal ram. The former may be operated by hand or electricity. The latter by hydraulic or electric power.

#### The Fires.

The firing of the kiln may be arranged to suit the fuel most available in the particular locality under question. Present installations are operating with oil, natural gas, producer gas and direct firing with coal. In fact practically any fuel now in use in periodic furnaces may be used in the tunnel kiln.

#### Refractories and Insulation.

In connection with the construction of the kiln proper, it should be noted that the grade of refractories used differs in the various zones. In any zone, however, the grade selected should be such that its critical point is safely above the highest heat that it will ever be subjected to. This applies to the inner lining of the kiln only, as the outer walls are usually constructed of common brick.

Between the fire brick and common brick walls throughout the entire length of the hot zone an insulating material is placed in order to reduce the loss of heat by radiation. This material is also placed on top of the arch throughout the same section.

## DEATH COMES TO NOTED CHEMIST.

JACOB HASSLACHER, well known in chemical circles, died at his home, 322 West 100th Street, in the city of New York, on the morning of March 15, 1921, in the 69th year of his age.

Mr. Hasslacher was born in Ems-on-the-Lahn, Germany, in 1852, the son of Mr. and Mrs. George Hasslacher. His father held the important official position of Administrator of the Government bath, Parks and Buildings in Ems. He received his elementary education at the public schools at Ems and the Gymnasium at Hadamar, a collegiate institution, from which he was graduated in 1872.

For six years he was connected with the German Gold and Silver Refinery at Frankfurt-on-the-Main. Mr. Hasslacher came to New York in 1864 and with Franz Roessler established the firm of Roessler & Hasslacher, manufacturing and importing chemists, and in 1889 the co-partnership was incorporated under the name of The Roessler & Hasslacher Chemical Company, with the head office at 73 Pine Street, New York City. Under the wise and farsighted guidance of Mr. Hasslacher the business grew to its present eminent position. He was the leading factor in the formation and subsequent development of the Niagara Electro Chemical Company, the Perth Amboy Chemical Works and in other enterprises in which the company is interested. After many years of active administration of these concerns, he was on account of ill health and to the great regret of his associates compelled to retire from active participation about a year ago. Despite his retirement he maintained an active interest in all his former friends and their activities until a few days before his death.

Mr. Hasslacher was a member of many organizations, having the advancement of the Arts and Science at heart; among these were: The American Chemical Society, Society of Chemical Industry, American Electrochemical Society, American Association for the Advancement of Science, New York State Forestry Association, of which he was a vice-president; Metropolitan Museum of Art, American Museum of Natural History. He was also a member of many business and social organizations, such as: U. S. Chamber of Commerce, N. Y. Chamber of Commerce, Chemists' Club, The Drug & Chemical Club, New York Athletic Club, Elka Park Association, in all of which he took an active interest.

Among his friends he was recognized as farseeing and broad in his views and purposes, forceful but tactful, willing at all times to subordinate his own wishes to the good of the cause he supported, liberal to give his friendship, effort and means, sympathetic and enthusiastic, an ardent lover and admirer of nature. Mr. Hasslacher was generous in his support of all charitable appeals irrespective of race or creed, he was an ardent citizen, neutralized in the year 1889, five years after entering his adopted country and gladly gave his support when his sons answered their country's call a number of years ago.

Mr. Hasslacher is survived by his widow, Mrs. Elizabeth Fleck Hasslacher, two sons, and four daughters.

#### ECONOMY IN HANDLING COAL.

Eastern Illinois Clay Mfg. Co., St. Anne, Ills., are installing a Columbus Automatic Unloader for handling coal from cars to storage bins. With this outfit, they can unload a 50-ton car in an hour and elevate it into bins. The equipment is illustrated on page 504, this issue.

Teams drive under bins, get load in one minute to one minute and a half; consequence, one team will do work of two or even three. Many clayworkers are installing this equipment and thus reducing cost of production. Where several cars of coal are used weekly, the outfit of Columbus machinery will pay for itself in a few months.



## RECENT PATENTS

## IN THE CLAYWORKING INDUSTRY.

(Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering give patent number only.)

**No. 1,367,756. Apparatus and Method for Brick-Burning.**

Henry O. Robinson, Brookline, Mass., and Christopher Steadman, New York, N. Y., patentees.

The improved process of burning brick in a kiln, which consists in first supplying a relatively low fire and forcing the heat therefrom by artificial draft throughout the entire stack, and then applying a hard brick heat to the kiln for approximately 24 to 36 hours, then forcing the heat within the lower part of the stack upward throughout the upper tiers by the application of artificial draft, then continuing the supply of heat until the burning of the lower part of the stack of brick is completed, and then completing the burning of the upper part of the stack by blowing out the heat from the lower part into said upper part.

**No. 1,358,925. Brick-Making Machine.** Olaf Bartness, Hawley, Minn., patentee.

In a brick-making machine the combination with a frame of a mold having a fixed end plate and a movable end plate, a rock shaft to which the movable end plate is secured, a bottom plate for the mold secured to the rock shaft, said rock shaft being mounted for raising and lowering movement, a foot lever and lazy tongs connected to the lever for raising then lowering the rock shaft.

**No. 1,368,940. Brick Drier.** Charles H. Klein, Chaska, Minn., patentee.

A dryer comprising, in combination, an alleyway having hollow side walls formed with a plurality of ducts connected with a suitable source of forced drying medium, a car movable into and out of said alleyway with its sides adjacent to but spaced from the side walls, said car having a tier of superimposed pallets spaced upwardly apart and adapted to hold pallets of spaced bricks thereon, said ducts being arranged in the opposite side walls of said alleyway to form separate superimposed strata of drying medium across the spaces between the pallets.

**No. 1,369,115. Building Brick or Block.** Louis F. Kline, Walla Walla, Wash., patentee.

In a brick or block for building, a hollow structure having a continuous cavity throughout its vertical height and having lugs positioned in the cavity to register with the cavity of the succeeding superimposed brick or block in a manner to provide a continuous cavity throughout the vertical height of the builded structure, a locking reinforcing means in the block with the lock thereof positioned intermediate the ends of the block.

**No. 1,360,010. Elevator and Conveyor for Brick Yards.** Charles A. Nelson, East Berlin, Conn., patentee.

Elevator and conveyor apparatus for use in brick yards comprising in combination a shed conveyor for delivering loaded pallets for setting and a second conveyor for returning unloaded pallets, a yard conveyor, and means for delivering loaded pallets from the yard conveyor to the shed conveyor.

**No. 1,369,522. Manufacture of Hollow Tile.** Frank Dochnal, St. Louis, Mo., patentee.

Patent for a method of making hollow tile which is to be finally used as open end tile, and which consists in forcing clay through a die, providing a temporary end wall tie section, or sections of the tile with a plurality of lines of slotted perforations for weakening the end wall tie section, or sec-

tions so that they may be easily broken out by the tap of a convenient tool after being burnt and prior to being laid into a wall structure.

**No. 1,369,752. Method of Kiln Setting and Burning.** Grafton E. Luce, Chicago, Ills., patentee.

Patent granted for a method of setting a kiln which consists in dividing it into a plurality of horizontal portions adapted to be burned successively, the dividing means having provision for automatically changing as the burning progresses.

**No. 1,364,128. Brick Tongs.** Calvin A. Messinger, Rock Island, Ill., patentee.

Patent granted for a device as named which comprises a pair of substantially parallel slidably connected members, jaws on the remote ends of the said members, and a lever pivotally connected to said members.

**No. 1,364,155. Floor For Brick Kilns.** Halver R. Straight, Adel, Iowa, patentee.

This patent awarded for a floor block, having its bottom substantially parallel and its ends beveled upward and inward, one side being provided with a vertical groove or recess.

**No. 1,352,056. Brick Machine.** James C. Dobbins, Rock Hill, S. C., patentee.

A brick machine of the character described, comprising a main frame including a horizontally disposed upper portion having a forward mold board support, an upright slotted wall along the rear of said support forming the rear mold wall, a front mold wall having a pivoted connection with the main frame and shiftable with respect thereto into and out of position opposing the rear mold wall, and a series of lengthwise shiftable partitions rigidly connected to one another.

**No. 1,365,336. Manufacture of Refractory Material.** James F. Mollen, Cleveland, and Walter W. Patnoe, Tiffin, Ohio, Patentees.

In a method of making a refractory material which consists in making a slurry of raw dolomite, adding a small percentage of common salt, and then passing the mixture through a rotary kiln operated at a temperature sufficiently high to calcine such dolomite and drive off practically all of such salt.

**No. 1,365,705. Building Brick or Tile.** John A. Lannert, Cleveland, Ohio, patentee.

A building element comprising a hollow block having a void extending from end to end thereof, and a solid block disposed transversely across one open end of the solid block, said solid block being provided with projections on opposite faces, one projection being integrally joined in the void in said block and the other projection being adapted to removably engage in the void of a similar hollow block.

**No. 1,365,753. Mold For Making Tiles.** George W. Vought, Hollis, N. Y., patentee.

Patent for a mold for shaping hollow tiles, comprising a box having side and end sections, an elastic rubber lining secured to the sections, and a plurality of cores each having an elastic rubber cover arranged in the mold.

**No. 1,365,825. Hollow Building Tile.** Lee B. Green, Cleveland, Ohio, patentee.

In a hollow building tile which is rectangular in plan, a portion centrally of the tile and four diagonal partitions extending from the different corner portions respectively of the tile toward the central portion and from top to bottom of the tile, the tile having the partitions, upon laying the tile on adjacent portions of two longitudinally aligned tiles.

**No. 1,366,369. Tunnel Kiln.** Philip Dressler, Zanesville, Ohio, patentee. Patent assigned to American Dressler Tunnel Kilns, Inc., New York, N. Y.

In a tunnel kiln having an elongated kiln chamber com-



prising a heating zone and a cooling zone at one end of the heating zone, and having an air preheating and cooling conduit extending along the cooling zone, and a combustion chamber separated by a heat-conducting wall from the kiln chamber extending along the heating zone thereof.

No. 1,366,456. Mining of Clay and the Like. John S. Highfield, London, England, patentee.

A method of mining clay, consisting of forcing a liquid in a stream against a clay face, collecting the resultant liquor in a collecting vessel and returning the liquor in the stream against the clay face until a desired degree of concentration of clay suspension is attained in the liquor; passing the liquor into a settling plant, adding a relatively small percentage of an electrolyte to the liquor and allowing the liquor to settle.

No. 1,366,583. Tile-Making Machine. Arthur Muller, Charlottenburg, Germany, patentee.

In a tile-making machine, rails, a striking plate, front and rear cam blocks adapted to travel on the rails, front and rear bearing attached to the striking plate and associated with the front and rear rollers, front and rear shafts journaled in the front and rear blocks and fixed in the front and rear cam blocks; a roller bearing attached to the striking plate and situated nearer to the rear than to the front bearings.

#### Trade-Marks and Designs Patented.

No. 120,964. LaClede-Christy Clay Products Co., St. Louis, Mo. Use of name "Bafrax" for fire bricks and fire tile.

No. 138,679. National Carbon Co., Inc., New York, N. Y. Trade-mark registered for refractory bricks.

No. 138,900. Chicago Fire Brick Co., Chicago, Ill. Use of name "Hi-Heat" for brick.

No. 118,888. LaClede-Christy Clay Products Co., St. Louis, Mo. Use of name "LaClede Crown" for brick and refractory tiles.

No. 138,358. Summitville Clay Products Co., Summitville, O. Trade-mark for name "Sum-Tex" for brick and building blocks.

No. 139,954. Laclede-Christy Clay Products Co., St. Louis, Mo. Trademark for name "Laclede" for the fire brick and fire tile.

#### NEW ENGLAND NEWS.

THERE IS A GREAT deal of work now maturing in the foremost sections of New England, particularly around Boston. The inaction in business seems to be ceasing. A steady improvement is showing each week, and it begins to appear as though better times are being ushered in.

During the next sixty days, developments of moment in the prevailing business situation are expected, which will show the way for a general renewal of activity in every line of industry in this section. Comparing the clay industry of this section with other sections at the present time, would show their activities are being carried along the same reasonable lines. There are under way plans for a large production as soon as Spring really sets in, unless something unforeseen turns up to change the existing plans.

There are several programs under way that when launched, will produce brisk business. Clay products manufacturers are of an optimistic frame of mind as to these contemplated developments that will in any way increase the demand of their products during the coming months. Construction work is showing signs of real activity and where the necessary construction work has been delayed, it seems business has been held up, the adjustment coming in the next sixty days, or even sooner, should bring things to the point of at least normal activity and without a doubt normalcy will be resumed generally.

The only real drawback is the uncertainty as to the actions of some branches of the building trades. The question is one of wages and in most of the cities throughout this section, employers have announced a wage cut of 20 per cent. The State Board of Conciliation and Arbitration is taking a hand and it is hoped they will be able to disentangle the maze that now confronts the builders.

Throughout this section there are several undertakings amounting to \$350,000.00 or more and several industrial propositions amounting to \$100,000.00. As such jobs take materials in large quantities, dealers are moving around to locate the required amount.

Building materials, particularly the burnt clay products, are remaining firm and steady. The principal dealers in and around Boston are asking \$28.00 per thousand for New York brick and \$32.00 for Connecticut product. These prices are for delivered stock. There appears to be no change in fire brick, remaining at the fixed prices of \$80.00 and \$90.00 per thousand. Face-brick are steady at the same levels, of \$50.00 and \$60.00. The preferred varieties are but a little higher. Terra cotta blocks are quoted at \$200.00 a thousand for four inch and \$380.00 a thousand for eight inch.

Building operations here have not entirely ceased. This fact must be borne in mind. The only drawback now showing up is the unstable condition of labor. While this is hoped to be satisfactorily settled, and undoubtedly will, as arrangements have already been made whereby the workers will resume work at a wage on a level with former wages, pending a decision before the State Arbitration Board. This should be encouraging and it will go a long way toward starting things toward a permanent normal period, which we are all looking forward to.

N. EAST.

#### SLACK CONDITIONS IN DISTRICT OF COLUMBIA—BRICK PLANT SPENDS \$150,000 FOR IMPROVEMENTS—SPRING PROSPECTS GOOD.

BRICK MANUFACTURERS in this district report generally slack trade conditions, with a considerable surplus of stock on hand. While spring building operations are somewhat slow in getting under way, it is anticipated that conditions will greatly improve after May 1, as plans for the resumption of work on many large operations are being made. Brick prices are still maintaining the level they have held since January 1, although it is admitted by several of the manufacturers that there is a possibility of a slight decline in present figures. However, this will depend entirely upon selling conditions during the next sixty days.

According to information just received here improvements estimated to cost about \$150,000 have been begun at the plant of the Big Savage Brick Co., near Frostburg, Maryland, just north of Washington. An addition which will mean the employment of about 150 more men and will increase the output nearly 50,000 bricks a day is being constructed. Work was started on the new structures late in February, but owing to the high cost of materials and labor building operations were suspended until this time. Shipments of the Big Savage brick are being made to all parts of the United States, Canada and to parts of Europe.

Twelve of the brick manufacturing plants in the district comprising Pennsylvania, New Jersey, Maryland, Delaware and the District of Columbia are shut down, according to information received in brickmaking circles here. While the suspension of operations is indefinite, it is not believed that it will continue for any considerable time. The plants closed down are said to be those which have a considerable surplus stock on hand.

ALTHOMAR.



### "HUM-MER" SCREENS IN SEPARATING CLAY FOR BRICKMAKING.

**M**OST OF OUR CLAY-HANDLING equipment was destroyed by fire in 1919," says Mr. C. H. Hendershot, superintendent of the Cleveland Brick & Clay Co., B. & O. R. R., near Harvard Ave., Cleveland.

"Realizing that we could not meet competition while sticking to old-fashioned methods, we determined that our rebuilt plant should contain the best equipment on the market. After considering several different screening devices, we decided to install a 6-foot 'Hum-mer' inclined screen.

#### Carrying an Overload of a Difficult Material.

"We are using a blue shale in the manufacture of paving bricks. This shale is of a cement-like composition, and averages 1 per cent of moisture. On this account it tends to 'set' on the screen, especially in wet weather; and is hard to screen at any time.

"The 'Hum-mer' inclined screen was installed May 25, 1920. Originally we used two surfaces in the screen; but on account of the capacity we were forced to put through it, we changed to a single surface. At present we are using only the fine screen, which answers our requirements and increases our capacity considerably.

"To further increase the capacity of this machine, we changed the mesh of the wire. At first we used a square mesh wire; but as the machine was operating on an angle, we found that the capacity screen wire put out by the W. S. Tyler Co., increased our capacity from 40 to 70 cars per day. We have obtained the best results with the No. 736 'Ton-cap' screen. We use a standard vibrator and a G-1 generator, but believe a G-2 generator is better adapted to a 6-foot machine.

"Our material is crushed by a 21 by 42 single roll rock crusher, and carried by a drag conveyor to storage bins behind and above a battery of three 9-foot dry pans. Material from these storage bins is fed by reciprocating plate feeders to pans, and then elevated and distributed by a screen feed over the surface of the screen.

"We feed from 22 to 24 tons of blue shale through the screen per hour, getting on the average of 18 tons of screenings each hour. Of course in dry weather the loose shale will go through the screen much easier than in wet weather. Our average output since installing this screen has been 343,000 lbs. of brick in a 9-hour day. We operate the screen at an angle of 30°, finding that inclination gives us the best results with the material we handle.

"Because of the peculiar quality of this material, and the necessity of making the screen carry an overload from the very start, it took considerable experimentation to fit the machine to our requirements. The W. S. Tyler Co. gave us the heartiest co-operation in every respect, with the result that we shall shortly install a second 'Hum-mer' screen to take care of the increased capacity of our plant.

#### Several Simple Adjustments Assure Uniform Screening.

"Too much stress cannot be laid on the necessity of uniformity in the screened ingredients which go into the making of paving bricks. If the crusher does not crush the shale quite fine enough, and the larger particles get by the screen, there will be a high percentage of rejections on the job. This is likely to occur many miles from our factory because the lots are not inspected by the purchaser until they reach the job, so that we should be put to a heavy expense to take care of adjustments.

"Screening our material with a 'Hum-mer' separator, the material spreads evenly over the entire screening surface. Because of the vibrating action of the screen, the larger particles are thrown up and the finer particles have an opportunity to pass through the screen. The uniform screening resulting assures us a uniform product.

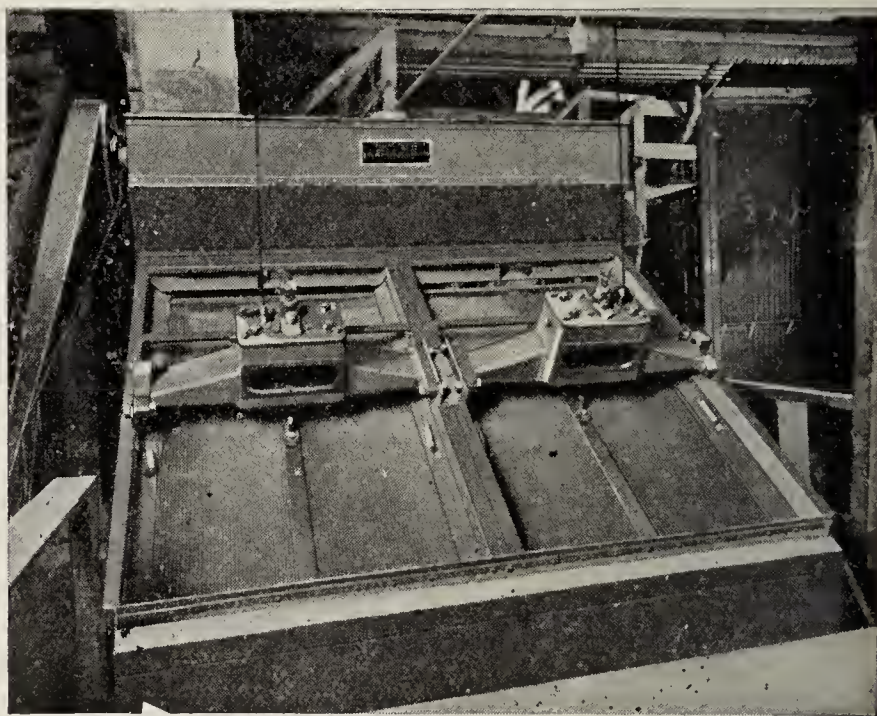
"Compare this with the old piano wire screening method. When a screen boy or some mechanical device is used to rake or scrape the material upon the screen, in order to get it through, a large number of larger particles are forced through the mesh. As a result, the screenings are not nearly as uniform as they should be, and our finished product is affected.

"Again, with the old piano wire screen, we haven't the control possible with the 'Hum-mer' separator. In the first place, with the screw feeding device we are able to control the feeding of the material onto the screen, so that there is an even, steady flow. By getting a more even distribution, we were able to increase our capacity from 15 to 40 cars per day, or 10,000 to 25,000 brick.

"This adjustment, like others on this machine, can be made while the screen is in operation. This gives us a decided advantage over the hit-and-miss method, because by opening up the machine when it is running we can see what effect the adjustment is producing. The adjustment of the screen to a drum tension is also easily accessible. By using the hand to test the tension, the screen can be brought to the desired resiliency.

#### Comparative Cost to Install and Maintain Both Types.

"Three men, working 15 or 20 minutes, can change both



The Hum-mer Screen.

screens on a 'Hum-mer' separator. If they had to change the wire on a piano wire screen, it would take them at least half a day. During that time they would tie up our plant and throw from 25 to 30 men out of work. As the screens on the 'Hum-mer' last at least 6 months, the time lost in changing them is practically negligible.

"The cost of the made up screen is approximately the same as the cost of the piano wire. The cost of labor to put the two 'Hum-mer' screens in place, figuring 3 men working 15 minutes each, would amount to 45 cents. To change the piano wire would take 3 men half a day and cost \$9.90. However, this difference is negligible when you think of the men that are thrown out of work while the old type screen is being repaired.

"The original cost of the two types of equipment is approximately the same, with perhaps a slight difference in favor of the 'Hum-mer' separator. The cost of the 'Hum-mer' installed complete is approximately \$1,100. Two piano screen frames would cost \$600; the wire to string them would cost \$50, and the labor another \$50, making a total of \$700 for the equipment alone.

"The other things necessary with this old-fashioned equip-



ment would bring the cost of the installation to approximately \$1,000. For example, the building must be designed to accommodate the old type of equipment, because it is usually hung from roof rafters which have to be built especially strong. Taking such things into consideration, the two equipments cost approximately the same.

"We figure that the repairs on the two types of equipment will also run approximately the same. The 'Hum-mer' screen costs \$14 a section, and must be replaced every 6 months. We carry an extra vibrator to protect us against shut downs. The cost of this investment, and repairs on the vibrators, will come to approximately \$160 a year. We are confident that \$200 a year will cover the entire repairs on the equipment.

#### Why We Are Planning to Install a Second "Hum-mer."

"The accessibility of all parts on the 'Hum-mer' separator, and the ease with which we are able to control the uniformity of the material screened, make it an ideal machine for our use. We have been forced to crowd our equipment to the utmost; and after installing the additional machine on which we are planning, we shall probably make certain readjustments. With two machines we shall not have to put as much capacity over the machine as we now do.

"While the old type of machine needed constant attention, the 'Hum-mer' requires very little attention. This is fortunate, because it is pretty hard to get a screen boy to stand up and eat dust all day long in front of the old type machine.

"The cost of running the 'Hum-mer' is much lower than the cost of the piano wire screen. The power consumed by the vibrator, and by the motor that drives the feed screw, will not nearly equal the wages of the screen boy.

"The 'Hum-mer' separator has brought about a noticeable increase in the general efficiency of our plant. The exact extent to which it has increased our capacity and earnings can not be determined definitely until the second machine has been in use for a while."

#### INTERESTING EXPORT DEVELOPMENTS IN THE BRICK-MAKING INDUSTRY.

**N**OTWITHSTANDING THE GENERAL slump in exports in nearly all lines, it is gratifying to know that the foreign sales of brick in the seven months ended on January 31, 1921, more than doubled those for the corresponding period ended January 31, 1920. Statistics just available at the Bureau of Foreign and Domestic Commerce indicate a decided up-slant in the United States overseas brick trade, with the shipments said to be steadily increasing. In the seven months referred to, ended January 31, this year, our exports of brick totalled \$3,429,265, as against \$1,664,283 in the same seven months ended January 31, 1920. The shipments were divided as follows. In the exports for the seven months ended January 31, 1921—building brick, \$238,126; fire brick, \$3,191,139. In the corresponding period of last year—building brick, \$199,474; fire brick, \$1,464,809.

The Department of Commerce has received reports from its trade representatives in New Zealand to the effect that a rapidly-growing market exists in that country for American brick. The reports also state that the same United States brick manufacturers who shipped Hudson common brick to the north of France districts over a year ago have just completed the installation of an extensive plant with American brickmaking machinery in New Zealand, which will operate all the year around.

The city council of Wellington, New Zealand, has under consideration the erection of a municipal plant for the manufacture of bricks for the use of the city and to supply the city's requirements. This is found to be necessary on account of the general scarcity of brick there for building purposes. Brick in New Zealand are at present selling at \$24.33 per thousand, and have recently gone as high as \$26.76. It is believed by the New Zealand authorities that the erection of an up-to-date brickmaking plant in Wellington will be found of great value in relieving the shortage.

MARKS.

Written for THE CLAY-WORKER.

#### NOTES FROM DIXIE LAND.

**T**HE SPRING DAYS, following several late cold snaps at the very first of the season and in the late winter, are having a tendency to make builders sit up and take notice. Architects, contractors and material people are busier than they were a few weeks ago, some of them mention that it is still a little quiet, but the expectation is for a good active spring and summer business in the Mississippi Valley. The demand for houses, residential and business structures is good. Financial situation is sound, farmers are eager and active for a changed program, with less cotton and more general crops. Industries that have been dormant for six months are beginning to resume. Mercantile and city life is very healthy in the larger cities and towns.

Municipal and public work will be very large in Memphis, Nashville, Chattanooga and other cities of Tennessee this season. This is assured by authorization acts, bonds floated and in some instances work actually getting under way. The Mc-Lemore street viaduct over the Illinois Central and the Y. M. and V. R. R. will be large work of the season, the city to clear the way and raze about forty buildings in the opening of street approaches. Ground was broken for the initial part of this work the present week. By mid-summer the fourteen-story Tri-State Hotel building will be started. In April, the architect, Chas. O. Pfeil, will have first floor plans completed for the Municipal Auditorium and Market which is to stand on North Front street, between Poplar and Exchange avenues. The site has been cleared for several weeks passed. J. E. Crews Engineering Company having 120 days to do this work and the site is a very large block, many of the pioneer and old buildings being removed for its progress.

The Reliance Brick Company, C. M. Teas, manager, has moved its Memphis office from the McCall Building to 320 Scimitar Building.

B. Mifflin Hood Brick Company, located on the third floor of the Scimitar Building, is showing beautiful samples of brick and tile product and report that trade in this branch of industry has improved with April. They are supplying several large jobs in the Mississippi Valley. C. W. McDowell is manager of the local plant. Their product comes from six plants where they manufacture in Tennessee, Georgia and Alabama. Besides brick of several varieties, they also manufacture hollow building tile, fire place tile and other clay products.

The Memphis Brick Supply Company, in the Goodwyn Institute, Memphis, report trade in wholesale brick business picking up as spring advances.

The F. R. Thomas Clay Products Company, Central Bank Building, has been finishing up contracts from last season and has been fairly busy all the time and look for a brisk summer trade. They do a car lot wholesale business in all lines of clay products.

An event of great interest in Memphis in early April was the strike in the building trades, brought about by some seven of the crafts, declining to accept a proffered wage reduction, amounting to about 20 per cent. They claimed that the cost of living had not gone down sufficiently. There was a quiet strike of about fifteen hundred men, plumbers, sheet metal workers, electricians, painters, carpenters, etc. The latter, it is reported, have reached an agreement. The bricklayers and plasterers were not affected in the strike, but in a general way the entire building trade is of course affected. It is not believed that the situation will be prolonged a great while as it is now.

DIXIE.

Collectively bargaining by employees will have to drop the closed shop claim if it is to make much permanent headway.



## SIDELIGHTS ON MEN IN THE TRADE.

"With Stuff Untainted Shaped a Hero New, Wise, Steadfast  
in the Strength of God, and True.

"TONY" IS AN affectionate term of endearment to hundreds of clayworkers. It is the nick-name of a brick manufacturer who stands pre-eminently high in the esteem of his fellow men. He has reached the age of eighty-four, so we feel sure he is old enough to stand a little publicity of the kind we desire to give him, and he deserves much more than the pen can picture. His life has been one of great activity. His absolute honesty, firmness and staunch patriotism dominates the man. We refer to "Tony" (Anthony) Ittner.

He is a pioneer brickmaker, worked on a brickyard seventy years ago, and so has grown up with the business, having seen it change from a one-horse trade to a several hundred horse-power business. Today, he is president of the General Clay Products Corporation, successor to the Anthony Ittner Brick Co., with offices at 419-422 Chemical Building, St. Louis, Mo. Warren W. Ittner, his son, is vice-president and general manager, and a son-in-law, J. B. Hulett, is secretary and treasurer. This corporation owns and operates two large plants in Belleville, Ill. These plants are the life work of "Tony" Ittner and his son, Warren. During the war consolidation was made with another plant in Belleville, but this proved unsatisfactory, the consolidation was dissolved, and the two old plants have been changed and improved so that today they are quite up-to-date with modern equipment and a capacity for the manufacture of 20,000,000 brick annually. These brick have a high reputation and hence are not difficult to sell; the chief troubles in the past have been labor conditions and too keen competition with other brick concerns who seemingly knew little of their costs.

The Anthony Ittner Brick Company was one of the oldest of the St. Louis brick manufacturing firms and through his connection with same, Mr. Ittner gained a world-wide reputation as a brickmaker. He was the second in the St. Louis district to adopt the dry press process and made of it a great success. Mr. Ittner has done a great and good work in building up the brick business in and about St. Louis. He was a charter member of the National Brick Manufacturers' Association, was elected president in 1893, and has attended many of the meetings, and is now a life member of same.

The two plants owned and operated by the General Clay Products Corporation are located about two miles northwest of Belleville, Ill., a suburb of St. Louis, on the main line of Louisville and Nashville Railway, each plant being connected with this road by switches. The clay is the yellow surface clay of the St. Louis district, the bank averaging 25 feet in depth. The company owns considerable land in that vicinity which has an eight-foot vein of Illinois coal beneath the clay, so they have an abundance of both clay and coal for many years to come. A detailed account of the plants will be published in a subsequent issue. This is a story of "Tony."

His was not a life of ease; he knew little of the luxuries of life or the lap of plenty in his early days; it was a constant struggle and fight to surmount the difficulties he faced.

At the age of nine, he secured his first job in a lead factory in St. Louis. In those days they had no street conveyances and he had to walk to and from work. This first job paid him 25 cents a day at first, after three months his salary was doubled.

When twelve years old he went to work on a brickyard off-bearing brick, later taking up different work about the plant which at that time was crude and of the horse tempering-wheel type. For four years he worked on the brick plant

and then began serving his apprenticeship at the bricklaying trade, which lasted three years, during which time he walked to and from his work, often two and three miles, each direction. This exercise built up his physique so that in later years he made quite a reputation for himself as a pedestrian.

In this connection, we might refer to three incidents which will no doubt be very interesting to our readers. Some years ago, while in charge of the brick works at Belleville he had some business with a party at Mascoutah, Ill., where he went by early train, and finishing the business by nine o'clock, went to the railroad station and asked the man in charge the time of the next train to Belleville. Upon being told the next train was at six o'clock in the evening, he immediately set out on foot and reached Belleville, thirteen miles distance, in two hours and three-quarters. How many young men of today would have walked had there been no other way of getting home?

Upon another occasion, on a trip to a placer mine at Placerville, Colo., the Denver & Rio Grande train did not reach the place within fifty miles; it was early in the morning and no conveyance of any sort at hand. It had been snowing and the ground was covered with several inches of snow, but this did not stop "Tony." He started out at once



Anthony Ittner, St. Louis, Mo.

and walking across the mountains, landed at Placerville at dusk. He was a natural walker, and through this habit acquired in his youth through necessity, has preserved his health and keenness of mind.

When the street car fare in St. Louis was raised to eight cents, numerous walking clubs were organized in protest thereof, and many of the citizens of St. Louis pledged themselves not to ride if the distance they had to cover was twenty blocks or less. Mr. Ittner did not need to join any club, he was a club of one all by himself and even today at the age of eighty-four he walks down town from his home, a distance of thirty blocks. He has a niece living in the southwestern part of St. Louis, about three miles from his home, whom he visits every other Sunday, and the weather is decidedly unfavorable when he does not walk both ways.

In 1915, at the age of seventy-eight, he was in a walking contest with a scout master. This speed walk was around Lafayette Park on the evening of the 5th of July. The distance was one mile. The scout master was twenty-eight years old, in fine physical trim, and yet our beloved Tony, young at seventy-eight, beat the young man by thirty paces. On the evening of the 7th of October, 1919, just previous to his eighty-second birthday, Mr. Ittner in company with a grandson made



a trial walk around Lafayette Park to see if four years had handicapped his walking ability. They set their watches on exact time with each other, and started at the same spot, walking side by side around the park in exactly eleven minutes, the same time he had made in his speed walk with the scout master.

More power to Tony and all his relatives, for they are of a type once known is to love them always.

Mr. Ittner served his time as a bricklayer's apprentice and was a contracting bricklayer for a number of years. He was a strong advocate of trade and training schools wherein the young American boy would be given the chance to learn a trade and devoted much time and effort in furthering the interest in and the up-building of this type of school. The following article by Mr. Ittner will no doubt prove interesting to our readers:

#### OPEN VS. CLOSED SHOP.

To the Honest, Law-Abiding and Loyal Citizens of the United States of America.

The time has come to speak out boldly and act promptly in the matter of Closed Shop Unionism and as one who was put under ban in 1867, fifty-four years ago, this is long before the word boycott was coined, I feel, in view of this fact, that I have the first right to the floor, and let me say that there is nothing in connection with my whole life that I feel prouder of than the fact that in my sixty years as brick manufacturer and as a contracting bricklayer, I have never been under the control and dictation of Closed Shop Unionism one single solitary moment, while scores and scores of others in the contracting and building business got white blood and cold feet when a delegation of labor leaders called on them.

Gompers was in this city a few days ago and got off some big talk and has promised us more of the same stuff on his return trip.

This despicable creature was in this city the night the Los Angeles Times was blown up and the papers reported him as saying that the damnable act was a frame-up of the employing interest to put organized labor in a bad light before the country. He was in this city again when the McNamara brothers were arrested for the blowing up of the Los Angeles Times and the papers reported him as repeating what he had said on the former occasion and adding that it was the purpose of the employing interests to "destroy organized labor." The McNamara brothers to save their necks from the halter confessed the crime of blowing up with dynamite the Los Angeles Times and are now serving penitentiary sentence for that damnable act and yet it never occurred to Mr. Gompers to make the amend honorable with the employing interests of the country. No, not he, he is not built that way. Several years ago he was under jail sentence and a fine imposed upon him by our highest court with an injunction pending against him whereupon he blatantly told the court, "To hell with your injunction!" And now he is again criticizing and abusing our supreme court for a recent decision with a promise of added criticism and abuse when he returns.

I said over my own signature several years ago, which appeared in print as follows—viz., "That Closed Shop Unionism is the worst curse that ever befell this fair land of ours, barring none!" Yes, it is un-Christian, unbrotherly, un-American, and unconstitutional. It should have no place, no, not even in hell, and could not have since hell is an open shop.

I have done much missionary work during the past half century to the end that closed shop unionism might be wiped out and obliterated from every foot of the earth's surface covered by the Stars and Stripes, and that this might be brought about in my life time. And, now, God be praised, we are beginning to see the silver lining peeping out from behind the dark and gloomy industrial clouds.

As an American citizen, I have hung my head in shame at the domineering power of Gompers over legislative bodies, municipal, state and national and over our President, as evidenced in his signing of the Adamson Act, the most humiliating act of our Congress and the President since the signing of the Declaration of American Independence. I might go further and truthfully say that Gompers was beginning to make inroads into our Supreme Court.

And think of it, that this was all being done by a person who represented only the small fraction of one-sixteenth of the wage earners of our country, and then to think that two-

thirds of that one-sixteenth were secured through force, were told that they would have to get off the earth, have their damn heads mashed, their wives and children abused and insulted by calling them in turn—scabs, rats, snakes and skunks.

It will be in order at this point to refer to the young man who was working at the Baldwin Locomotive works. Union men were hounding and harassing him to join their union, and who not approving of the union and not being able to see his way clear, wrote a short note to his wife, saying how his fellow workmen were bothering and pestering him to join their union, in other words making his life miserable, telling her good-bye and committing suicide. This is closed shop unionism—pure and simple.

Now, listen further: "A union man," addressing a minister of the Gospel, a reverend gentleman—a full page letter dated St. Louis, March 4, 1904, beginning thus: "Hypocrite, Wm. J. H. Boetcker:—Miserable scoundrel, dirty-thieving liar, I was last night in the Christian Hypocrite Association and heard your miserable blasphemous insults on Union Labor. You dirty scoundrel never done a day's work in your life, come here on half-rate railroad fare to tell your dirty lies." And as a postscript, the following: "Any woman that wants her husband to work twelve hours is nothing but a prostitute." Yes, closed shop unionism which should be consigned eternally to the bottomless pits of hell.

In a letter to Arthur Skelly, chairman Executive Committee, Bricklayers' and Masons' International Union, under date of September 18, 1904, I made the following statement, viz.:

"I said to my journeymen bricklayers in 1867, with some of whom I had worked on the scaffold before starting in business for myself, as follows: 'Boys, if you can see your way clear to do away with your rules limiting apprentices and your proscription of journeymen bricklayers not members of your unions, and should do so, and after having done so will consent to take me into your union, I will gladly become a member and will make every effort in my power to get every bricklayer that ever comes to work for me to join your union; but it will have to be done through friendly approach and intelligent argument.' And I am pleased to say that I would say the same today, were the situation repeated."

The wage earner, both skilled and unskilled, has the same right to organize for his own interest and betterment as has any other craft or interest, but it must be in keeping with the laws of God and man on the basis of the Universal Fatherhood of God, and the Universal Brotherhood of man. I have never said an unkind word to an employe, have at times paid fifty cents a day more than the union wages on the theory that I was getting better service than union men were permitted to perform. I went to work in this town seventy-five years ago at the age of nine years at twenty-five cents a day, and have been working in different capacities ever since and no man on this earth has more or better reason to sympathize with the wage earner than I have.

I have said the blowing up with dynamite of the Los Angeles Times was the finishing touch of the blowing up with dynamite of one hundred bridges and steel structures covering a period of some five years, all on open shop concerns and non-union workmen, accordingly, any ordinary person could see and know by whom the hellish work was being done, and Gompers is far more than an ordinary person, so I have said and here repeat that after the blowing up of the sixth or seventh steel structure and bridges, Gompers could know by whom the hellish work was being done and one word—"Stop!" from him would have been sufficient, and as he did not give the stop order, I hold him personally responsible for every blowing up after the sixth or seventh as much so as if he had put the lighted match to the fuse with his own hand.

Nay, it would not be wrong or uncharitable to hold him personally responsible for the entire one hundred blowings up, since the salaries and traveling expenses of the McNamara Brothers and others would have to be authorized and sanctioned by him.

In finishing it will not be out of place to make mention of what my good wife and children said many years ago—as follows—"Papa, you had better be careful of what you are saying in opposition to Closed Shop Unionism, since they might waylay and assassinate you"—my prompt answer was—"Well all right, should my stand for the 'Open Shop' in opposition to the 'Closed Shop' result in my assassination the day would come when a monument would be erected over my grave and for such a great honor as that I am quite willing and ready to be assassinated since I would be remembered and honored by all liberty loving Americans for all time."



## THE TRADE QUIZ BOX.

*Many readers of The Clay-Worker are wont to ask the editor for information on various matters pertaining to the brick and tile business. Usually such questions are answered by letter on the theory that the party asking the question is the only one particularly concerned, but many times the queries are of a general character and cover points in the trade in which the general reader may be interested, so we have inaugurated a Trade Quiz Box. Under this head, questions and answers will be given and any reader who can give further particulars in response to any particular query, or desires information on any phase of the business, is invited to make use of this department.*

### WHAT IS MEANT BY FIRE CLAY.

**QUESTION:** Can you give me a good definition of the term fire clay?

**Answer:** A definition of "fire clay," "surface clay," and "shale" would seem simple if one did not know anything about them. I wonder just how far one should go in the definition, and whether there should be any sub-divisions. If the definition of fire clay is broad it will include kaolins, ball clays, "White" clays, and many other clays which are refractory but are not locally known as "fire clay." It seems to me important to fix a standard fusion point, and a simple definition would be, "A light burning clay which does not soften at a temperature under cone 26." Perhaps one should qualify this by adding that the test is without load and not subjected to any slagging action. We might go farther and distinguish between a No. 1 and a No. 2 clay, and I make the dividing line cone 30 which is included in the No. 1 class.

Then there are soft fire clays like the New Jersey and Mississippi stuff, and elsewhere; hard rock like clays which become plastic when pugged, and flint clays which have little or no plasticity.

If I knew more or less about fire clays I might write a definition, but as it is I am between the devil and the deep blue sea.

I do not know what is a surface clay. If you ask a clay worker who is working a surface clay, he will say that his material is just a common surface clay. It may be glacial clay, river alluvial of recent origin, lacustrine, estuarine, loess, joint clay, volcanic, residual and colluvial clays, or one of a number of others. It is any clay that happens to be exposed, or not deeply covered in any locality. In brief it is an areal clay commonly found in any designated locality. Before I got through with it, I probably would wish to add a lot of dope about the characters and geological origins.

A shale is a hardened laminated clay which retains sufficient plasticity, or better which develops sufficient inherent plasticity when ground and pugged to be workable into stiff mud clay products. This would eliminate the laminated clays which are more clay than shale. It also eliminates schists and slate which have been hardened to the degree that the plasticity is insufficient for practical working, and it eliminates clays from disintegrated shales which retain some of the lamination. The latter should be shale clay.

CAREY P. ELLIS.

### DISINTEGRATOR-CRUSHER.

**QUESTION:** I am manufacturing drain tile from a mixed black and red clay which does not pulverize readily after

digging. I have no storage shed for the raw clay, but dump same in a pile and keep it wet so as to make it slightly plastic. I feed the clay from the dumping pile direct to a pug mill. The clay, as mined contains small pieces of iron ore up to the size of a walnut and stones about as large as marbles. These substances get stuck in the dies and cause much trouble, reducing my production some days to about one-half normal. I wish to install a disintegrator or crusher, but do not know which would be the most satisfactory for my case. I would thank you very much for your opinion on the above matter.

I would also like to get some information on how to burn drain tile in a square open top kiln with perforated brick bottom. I also desire information on binding materials used for kiln construction.

**Answer:** The best machine depends a good deal upon the hardness of the iron nodules. If they are lumps of iron pyrite, which we suspect, doubt if any machine will crush them readily. A disintegrator will snap out many small stones, in fact any stone it cannot bite, but the machine soon wears hollow in the center and lets the small stones through.

If the stones were larger, conical rolls would remove them. Conical rolls are worse than a disintegrator in wearing hollow, and their use is questionable. If the stones are not iron pyrite, then the best machine would be the large equal roll, differential speed machine, which will crush an ordinary stone, and the rolls are large enough to bite the stones, besides having a relatively narrow face which does not wear hollow as badly as the wider rolls. We do not know enough about the material and the stones to intelligently advise what machine is best. A number of users of stony clays have given up trying to eliminate the stones by crushers, rolls, etc., and are putting the clays through rotary dryers, pulverizing it, and screening out the stones. This is the real solution of stony clays, whatever the character of the stones may be, but it adds materially to the cost of manufacture.

Drain tile are sometimes burned in up-draft kilns, setting the tile above the arches and alternating each bench with a bench of bricks. It is not to be recommended because the draft is strongest up through the tiles, and they are overburned partly because of the stronger draft and partly on account of the thinner walls of the ware. The result is either overburned tile or soft bricks.

We are in doubt about the kiln binding materials. We seldom bind an up-draft kiln.

### THE IMPORTANCE OF PROPER AND SUFFICIENT DRAFT. Editor The Clay-Worker:

Taking up the subjects involved in the following questions, all of which appeared in The Clay-Worker some time ago:

"What is the cause of fires repulsing?"

"What can be done to make repulsing fires draw?"

"What can be done if a kiln gets sooted so all of the fires burn backward?"

"What can be done if a kiln which has no furnace at the stack gets sooted?"

I propose to treat these questions collectively for they are all symptoms of the same disease, and attributable to the same cause, i. e., Insufficient Draft. A kiln showing the symptoms indicated in the last two questions has double pneumonia, and is dying of defective respiration. The remedy is to remove the cause by supplying unlimited draft if possible. Since the stack has no furnace, the first thing to do is to build a furnace in it, not a little one, but a good one and build a hell-roaring fire in it, and keep it going and then watch your patient recover. That stack furnace is worth \$5,000.00 to any brickyard having downdraft kilns. Now, Mr. Brickburner, you don't believe that, for if you did your stack



would not have been without a furnace. Shall I prove it to you? Then listen, when you built your burning equipment you realized that you needed draft, and if you followed the burning of one single kiln, you realized that you needed it worse and more of it during dehydration than all of the rest of the burning period combined, so when you built that stack you built it to deliver draft and for nothing else, and when you connected it up through tunnel and bottom, and when you employed an expensive setter to build draft in and through the green brick connecting the draft from kiln arches to the top of the stack, you were buying draft. You would not have spent a dollar of that money if you hadn't just simply had to have draft. So when you spent that money you were buying draft and you made a mighty good buy if you got it for as little as \$1,000.00. Everybody who is at all experienced in the use of drafts on a brickyard, knows that a hot, dry stack will deliver a thousand times as much draft efficiency as a cold, wet one, but I will be conservative and say that the hot stack is 100 times as efficient as a cold one. Therefore, when you built that stack furnace and fired it, you multiplied your draft efficiency by 100 or added 99 stacks to the one you had, worth 9,900 bucks, but I will split the difference and let it go at \$5,000.00.

Common sense indicates that every stack used in water-smoking brick should have a furnace and consequently a good hot stack.

The next time you are preparing to watersmoke a kiln, first see that you have a good arch in the stack and let this be the very first fire you build, and build a good one here for there is no danger at this end of the steam. Then kindle your fires in the arches with the necessary caution and watch the satisfactory result, provided, however, you have used the common sense precaution, to have kept all draft courses thoroughly clean and open throughout.

Having thus in a common sense manner applied the principle upon which the success of the operation depends entirely, you will never experience the troubles complained of in the above questions, and furthermore you will have reduced scumming to a minimum.

In closing permit me to say that it matters not how good your construction, or how complete your instrumental equipment, they are in no sense a substitute for common sense.

Common sense is the sheet anchor to success in brickyard management, and if you haven't got it or are disinclined to use it, then get out of the business while the going is good. Run for president or congress, manage a railroad, fix the "league" or solve the Mexican muddle or get into some political position where they don't ever seem to need the use of common sense, but get out of the brick business.

COMMONSENSE.

### THE BOOK OF SMILES.

We are indebted to the Standard Dry Kiln Co., Indianapolis, see ad on page 448, of this issue, for the current "Book of Smiles," for it lives up to its name always and brings numerous smiles as we turn from one quip to another. True, some of them may be old, but what's the difference if the net result is a smile. One of the best in the current issue might be headed, "A Note to the Society Folks," and reads, "There is a difference between merit and notriety. A five dollar bouquet of roses hardly attracts attention to the wearer, but if she eats a nickel's worth of onions, she can break up the dance." The editor of "Smiles" displays poetic genius, and license, too. The following is an example:

"When you walk the floor with baby,  
In an all night crooning song,  
Be glad you're not in Greenland  
Where the nights are six months long."

Turning to the serious side, "Smiles" contains some very pertinent advice to brick manufacturers when it says, "Modernize your present dryer. A few changes now while you are not busy may be all that is needed," and then proceeds to tell the reader how to do it. Write for a copy.

Written for THE CLAY-WORKER.

### PENNSYLVANIA BRICK AND BUILDING NEWS.

THE SITUATION in and around this center is not in any way different at present from what it is in any of the other important Eastern centers. There are only a few important projects coming to light. There are a great many plans out for figures on a number of buildings and business structures, but the jobs ranging around \$50,000.00 are conspicuous by their absence.

A conference has been held under the direction of the Chamber of Commerce, Philadelphia, to determine a way to lower building costs. This was done to try to devise a way to stimulate construction, and must be accomplished before building can be resumed on a large scale. At present building operations are only going on at a very laggard pace. There are but few projects of any account in the process of being awarded or even in immediate view.

A point worthy of consideration and as well a move in the proper direction, is the reduction of wages at least 25 per cent of what is being paid at present. The workers have not shown what they intend to do and their move is at present awaited with interest. Present figures, as compared with pre-war times, are as follows: In 1914 bricklayers received 65 cents per hour, now they are paid \$1.30 while the proposed reduction would bring this down to \$1.00. This new figure would still give them an increase over what they received in 1914 of 53 per cent, which is ample as compared with the declining costs of commodities and food products.

Of course, the conference did not necessarily pick on the ones laying our own product, but the other trades were affected on the same basis. These suggestions are all in line with the gradual maneuvering and shifting all over the country, to obtain work at a figure that suits all hands concerned. It must come, and now is as good a time as any to arrange terms that will give us the necessary buildings so badly needed, in both the industrial world and habitats for the workers.

The brick business is really no better than any other line, but it must take its medicine along with the rest. The outlook at present is not at all encouraging, but everybody has the optimistic viewpoint that is gained from knowledge of the volume of plans that are out for figures. Some contracts are being awarded but they are in the mirror class. All are below \$75,000.00.

Common brick holds at \$23.00. This is about the lowest manufacturers dare to go in order to realize on their producing costs. Stocks are well maintained and there is plenty of reserve to take care of requirements as they appear. Face brick is very dull. A good class of face brick brings \$50.00. This price may vary a dollar more or less with the demand. Some grades are to be had at a price as low as \$39.00. Partition tile is holding at \$200.00 for the smaller sizes. The minor clay products are not in very much demand and the whole situation is open for a decided betterment.

Property has been acquired by the Standard Sanitary Mfg. Co., Pittsburgh, Pa., amounting to nearly 80,000 square feet. This company contemplates the erection of additions to its present plant. A plant is also contemplated at Baltimore, Md. It was recently announced that the capital of this Company was increased \$8,000,000.00 to be used for expansion.

It has been announced that the Eastern Refractories Co., have changed their general offices from Bellefonte, Pa., to Owiston, Pa.

There appears to be a material consolidation of the market in Pittsburgh, Pa., particularly in the brick and allied industries. This change is assigned to building as a whole and particularly to residences. Many inquiries are being received by both the dealers and the contractors, and what appears to be encouraging is the fact these inquiries are followed by real orders. This is just the reverse of conditions that existed but a short time ago.

PENN.





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

### The Clay-Worker Covers Field Satisfactorily.

Editor The Clay-Worker:

Please change my address on your mailing list from Tacoma to Seattle. I find The Clay-Worker not only very interesting, but very thorough in covering the field of events and developments.

Very truly yours,  
FRED T. HEATH.

### Practical Reference Book.

Editor The Clay-Worker:

I want to renew my subscription to The Clay-Worker, and also want a copy of Lovejoy's book "Burning Clay Wares." I have found The Clay-Worker to be a buyer's guide, a practical reference book and an educational diversion. Every clayworker should read it.

Shelby, N. C.

C. R. MINTON.

### Idaho Fire Brick Company Elects Officers.

Editor The Clay-Worker:—

It may interest you to know at the annual meeting of stockholders of the Idaho Fire Brick Co., held March 9th, the Auditors report showed the books to be in proper shape and the condition of the Company was also shown to be in good financial standing. The Manager's report showed that goods equal to 5,100 tons had been manufactured. Net cash receipts, \$100,000.00. Paid out in wages, \$42,000.

The following officers were re-elected: W. M. Duthie, President; C. V. Johnson, Vice President; Chas. Amos, Director, and Geo. Saad, Director. C. C. Hoyt, attorney, was elected Director to succeed August Johnson; J. B. Watson was re-appointed manager, Secretary and Treasurer.

After the meeting a splendid dinner was served which was partaken of by almost the whole gathering.

Troy, Idaho.

IDAHO FIRE BRICK CO.

### A Correction.

Editor The Clay-Worker:—

In the March issue of The Clay-Worker you have a news item stating that the Milton Brick Company had perfected plans for dissolution of the company giving as a reason the general industrial conditions.

It may be news to you to know that August of last year, Fiske & Company, Inc. purchased the plant with real estate holdings of the Milton Brick Company and as the Milton Brick Company was organized for the manufacture and sale of brick, there was no reason for their continuing in business after their affairs were wound up.

The same news item has been published in our local papers and we have requested them to correct it as it shows a reflection on the plant, whereas the plant is in better condition today and will produce better material than ever, just as soon as we get it running.

Business depression had nothing whatever to do with the

dissolution of the Milton Brick Company but they had ceased to transact business because of the reasons given above.

Very truly yours,

FISKE & COMPANY, INC.

Francis T. Owens, Vice-President.

Watson town, Pa.

South Carolina Brick Man Hopeful.

Dear Mr. Randall:—

We are enclosing you check to cover subscription to "Clay-Worker."

Your paper tells the brick news, and we read it with much profit especially when you tell us the New Jersey, New York and other Northern points are getting over Twenty Dollars per 1,000 for brick, while this section of Dixie has been forced to accept from ten to twelve dollars per 1,000. With us its just a case of too much cotton being raised and when the bottom drops out of cotton every thing else has to follow its downward course.

We hope this year the farmers of this section will raise their own "Hog and Hominy" and not have to depend on other sections to feed them while they raise nothing but cotton. But you can't always tell what either a farmer or a brick-maker is going to do, neither occupations seem to profit by experience.

Now that the G. O. P. is swinging the country we in this section hope for improvement in business, but are not looking for much if any of the pap.

Yours truly,

PENDLETON BRICK COMPANY,  
H. W. Williams, Manager-Secretary.

### Business Good in Birmingham.

Editor The Clay-Worker:

All of the building brick and other clayworking plants of the Birmingham district are now working at normal for the first time in six months. This is the clayworking center of the southern states and the fact that all of these plants are now in operation after being closed down for a half year is very encouraging news to the builders of the entire south.

As fast as brick can be made they are being shipped to various points in Alabama, Georgia, Mississippi and other southern states. The price has been reduced from \$24 per thousand to \$17 per thousand.

The re-opening of these plants is due to the fact that building has been resumed all over the south and many thousands of building brick are being used on this account.

On account of the cessation of building enterprises, all of the brick plants in this district were practically out of business last September. The indications are that these plants will be in operation all summer and that there will be a demand for all the brick they can turn out. Since last September there has been an adjustment of labor and other costs in the manufacture of brick, making the cost of manufacture at a price nearer normal than for many months. Coal is also more plentiful and can be bought at a price much lower than for a number of months, which also reduces the cost of brick production considerably.

There is more building being done in the Birmingham district and in the southern states generally at this time than has been done since before the commencement of the world war.

A. L. A.

There is quite a lot of agitation in favor of exempting new homes and home mortgages from taxation to encourage more active building. We are always keen for anything that helps stimulate business but we must all realize that if one line of investment is exempted from taxes it piles up more on the others.



## HEAD OF NOTED PORCELAIN FIRM, DIES.

C. E. Haviland, for half a century head of the famous porcelain manufacturing firm, died at Limoges, France, March 30. Mr. Haviland was a descendant of Theodore Haviland, an American, who went to France and established the firm of porcelain manufacturers bearing his name. The American origin of the firm served it well 15 years ago, when Limoges was in the throes of a great strike. Mr. Haviland, who served in a consular capacity for the American government, flew the American flag over his factory when the mob became menacing, and as a consequence the factory was undisturbed. Mr. Haviland was buried at Limoges.

## CLAY DEVELOPMENT IN GEORGIA.

Encouraging progress in the development of Georgia clays is reported by Dr. T. Poole Maynard, geologist of the Central of Georgia Railway, on one of his regular visits to the headquarters of the road at Atlanta.

"Although the shipment of Georgia clays has been somewhat decreased by the lessened production in the pottery and paper trades," said Dr. Maynard, "two new plants have recently been established on the lines of the Central of Georgia. At McIntyre the Akron Pigment & Chemical Company is mining Wilkinson County clay for use in the manufacture of automobile tires. At Toombsboro the Duncan property is being developed by St. Louis capital.

"There is no necessity for Georgia to continue doing as she has done in the past, that is to send to Ohio and Pennsylvania for aluminum, alum, fire brick and other refractory products. The raw material, fuel and hydro-electric power are at hand and the finished product can be manufactured right on the spot. Capital is finding this out, and we confidently predict a splendid industrial development of this nature."

## REFRATORIES MANUFACTURERS' ASSOCIATION.

At the annual meeting of the Refractories Manufacturers' Association, held the latter part of March at Pennsylvania Hotel, New York, the retiring officers were re-elected. They are: President, J. D. Ramsey, Elk Fire Brick Co., St. Mary's, Pa.; vice-president, John L. Green, Laclede Christy Clay Products Co., St. Louis; treasurer, C. E. Edmunds, McLain Fire Brick Co., Pittsburgh; secretary, F. W. Donahoe. In addition to routine business, the meeting was featured by the organization of a new group to include refractories manufacturers of the Pacific Coast section. The association, as a result of this addition, now extends from coast to coast, and the membership embraces a greater tonnage production than any of the other associations of brick manufacturers. The standard definitions of clay refractories developed by the Bureau of Standards, working in conjunction with the Refractories Manufacturers' Association and subsequently adopted by the American Society for Testing Materials, were accepted, subject to future changes, at the meeting.

## BRANDS OF FIRE BRICK AND OTHER REFRATORIES.

Under the above title, the Refractories Manufacturers' Association has published a booklet which is a veritable compendium of facts in regard to the brands of fire brick manufactured in the United States. It also contains a list of all of the fire brick manufacturers in the country, which makes it a handy book of reference. This little booklet has received a wide distribution among the craft and the users of refractory materials, as well.

Written for THE CLAY-WORKER.

## THE CHICAGO SITUATION.

**A** REDUCTION IN THE market price of common building brick to \$12 a thousand was announced to take effect on Monday, April 11. The last previous price prior to this reduction had been \$16 per thousand, which also was a reduction from war time prices.

The cut was made by the Illinois Brick Company. The cut was announced by the company's president, William Schlake, as an incentive to general reductions in all building costs, including that of labor, which, in building, as in other lines, is the big element that is keeping costs at abnormal levels, and which offers the most difficult of all the problems attendant upon reconstruction and readjustment.

This reduction in the price of common builders must be regarded by the public as a praiseworthy action of itself, and at the same time as a wise and a just action. A substantial reduction such as this (twenty-five per cent.) among the clay-workers should set a good example to all building material dealers and to the building trades generally. The lumber people have been making a great noise for several months about cutting their prices in two since the top war prices, but a close scrutiny of figures shows that they are still about 150 per cent. above pre-war standards, while this cut in common brick brings it down so that the price is less than 100 per cent. by considerably over what it was in the good periods before the world was thrown into a turmoil.

The announcement of the price-cut by Mr. Schlake followed shortly upon his appearance at a public hearing of the House and Senate committees on public utilities at Springfield. He went down with a delegation of real estate men and builders, to warn of the danger of the Kessinger bill which threatens to put the control of all rentals in Chicago under control of a special commission to be appointed by the mayor. Mr. Schlake assured the legislators that such a step instead of bringing down rents would discourage still further investment in building, and would actually operate to keep rents up or increase them still more. The remedy, he assured the committee, lay in a resumption of building at more normal prices.

As yet, however, labor is not evincing an intent to follow the lead thus given. A recent referendum of the building trades showed the men overwhelmingly determined to stick to their demands for full war-time wage, regardless of changing conditions. They seemed to base their attitude upon the high standard of rents, utterly ignoring the fact that unless there is a big building boom here and that unless homes can be produced at much less than present prices, nothing can bring rents back to normal. They are a good deal like the man who would let his house burn down because he would scorch his clothes if he went to throw water on the incipient blaze.

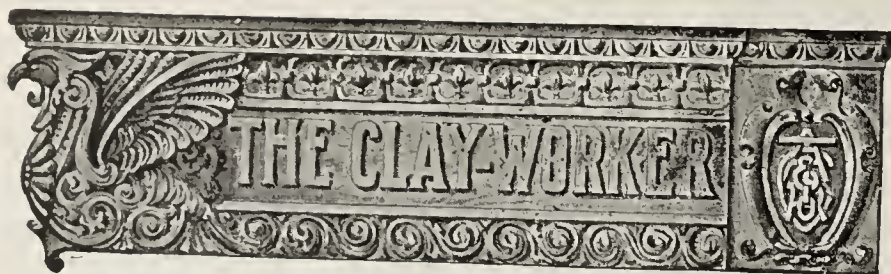
A special legislative committee of the Illinois General Assembly is investigating another phase of the building tie-up, namely, the alleged extortions of certain union labor leaders, and the alleged combinations of these with certain employers to lock any but local, union-made materials out of the Chicago market and to prevent the use of open-shop material which might, it is said, be imported at a lesser price.

From this talk of building "tie-up," however, it must not be imagined that things are entirely dead in the Windy City. Each week the number of building permits taken out with the city building commissioner runs from two to three times what it was for the corresponding week of a year ago. The total amount of estimated expenditure involved, however, generally runs below that recorded for similar periods of 1920, indicating that the building of today is mostly in the line of small homes.

There is plenty of big building, however, ready to start the minute that general conditions are a bit more favorable, and such conditions would also see new apartment buildings and single dwellings springing up on nearly every vacant space within the city limits, for Chicago is probably more "underbuilt today than ever before in her history."

"SCIP."





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THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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Correspondence on all subjects of interest to Clayworkers solicited. All communications should be addressed to  
211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 75

APRIL 1921

No. 5

**CURRENT COMMENT.**

Ideas like money should be put in circulation to do good.

\* \* \*

It is time to put the driers into high gear to increase brick production.

\* \* \*

It can be pretty clearly demonstrated these days that labor-saving means dollar-saving.

\* \* \*

The clayworker whose business failed to show a profit last year belongs to a very small minority.

\* \* \*

If you are entertaining old Gus Gloom around your works, chase him out, and get busy with Cheerful Air.

\* \* \*

The main trouble with a man following the line of least resistance as he goes through the world is that it too often leads toward failure.

\* \* \*

The labor supply now shows more plentifully, but the wage rate is still high, and there is complaint of indolence and inefficiency as well as short hours.

\* \* \*

It is much easier to see the other fellow's duty than it is to realize the full measure of our own. So let us look inward as earnestly as we look outward lest we be derelict in our own duty.

\* \* \*

The authorities tell us there are five kinds of tonnage in use in the shipping business; deadweight tonnage, cargo tonnage, gross, net, and displacement tonnage. Seems to us like we have also heard about a short ton and a long ton.

How to do more work with fewer men is one of the problems the machine men will help to solve.

\* \* \*

One of the best signs of the times this month is an awakened interest in the training of more bricklayers.

\* \* \*

No, the old heads don't know it all, but the youngsters who have found out that much have a lot more to learn yet, too.

\* \* \*

Advertising not only helps boost clay products, but it reacts in a beneficial manner upon the clayworker, and this is worth something.

\* \* \*

The best fish stories of the day are those that come from the government bureau of fisheries and have to do with new food and new leather products.

\* \* \*

Every industrial institution should have something in the form of a first aid cabinet or supplies and see that they are kept in good shape for prompt use.

\* \* \*

Brick is coming to the front nicely in porch foundations and porch piers, and there is a good chance to do some effective exploiting of porch floor tile along with it.

\* \* \*

That slogan, "Build With Brick," introduced and popularized by the Clay-Worker a few years back, is still a good slogan to make active use of in promoting trade extension.

\* \* \*

Let us Americanize those who are with us from foreign lands, and while we are about this task let us also have a care about who we welcome to this country in the near future from those foreign lands.

\* \* \*

We are told that a competent foreman should command the respect of the men under him and the confidence of the men employing him. A better way to put it is that he should earn these things by his works.

\* \* \*

One of the follies of 1920 was the profit tax. It has not only been unpopular, but has contributed more to waste and extravagances than any one thing right at a time when the government authorities are urging thrift and conservation.

\* \* \*

While the farmers are feeling the soreness over value losses in their own products they are slow about spending for improvements but just the same they are steadily realizing that the drain tile is a good investment, not merely an expenditure.

**THE AMERICAN FIRE LOSS.**

The American fire loss which is given as being around three hundred million a year is deplorable because it is a clear loss. Sometimes when we speak of losses what is one man's loss is another man's gain, but destruction by fire is not gainful to any and the more we can reduce our fire losses year by year the more we will save for the country in the way of permanent wealth.

**HOME FLOOR SPACE NEEDS.**

Someone has reduced the annual home needs of the country to a floor space basis and has figured that the annual requirements call for 650,000,000 feet of additional floor space a year. It is also said that we are about three years behind in residential building which means that the floor space needs of the present time for human habitation approximate two



billion square feet. The brick fraternity is not so much interested in the material for floors themselves but it has an interest in seeing that a better percentage of these floors are surrounded by brick walls than at the present.

#### A STUDY IN ROOFING.

The great strides in progress being made by composition roofing material and the advertising being done by prominent producers of asphalt and asbestos roofing products furnishes us an interesting study in roofing and in the relation of advertising to progress. The roofing material people are fortunate in this matter in that they have a product which can be widely and generally distributed while the heavier clay products are limited in their distribution by their weight and expense of freighting and handling. This is easy enough to understand and analyze, but it does not alter the fact that there is an interesting study furnished in the progress of composition roofing and in the wide-spread advertising of its promoters. The advertising of roofing alone perhaps fills more space in the current magazine pages than the advertising of the materials which construct the walls and floors of homes.

#### BRICK SHADES.

About ten years ago leaders in the architectural world were making a plea to the brick fraternity for more different shades and colors in brick so as to furnish the beauty of more variety. During the past decade we have developed such a confusing variety of shades in the brick world that there is now some tendency to reaction. As one of the speakers at the N. B. M. A. meeting said, "it is well to avoid as many shades as it is possible." We haven't got too many shades if it is merely a matter of humoring all the whims of all the individual architects and builders, but we are getting so many shades that the average brick man is beginning to feel like this variety business is running wild and it is time to put on the brakes and slow down. The producers of brick are now inclined to standardize and limit the number of shades, featuring the more attractive and merging the other into them so as to simplify both the matter of selling and the sorting for use.

#### EXPERIENCE AND INVENTION.

One of the strong features of the N. B. M. A. annual convention is in that it brings together the best talent of both the practical clayworkers and the machinery and equipment people who devise and invent machines and appliances for the use of the clayworkers. In their meeting together and exchanging views and conferring one with the other we get a good sensible hitching up of theory and practice. We have in the papers presented at the meetings both the stories of new inventions by machinery people and the practical experience of men in the clayworking industry who put these machines and inventions into actual service and observe the results.

This has been one of the steadfast feature services of the N. B. M. A. since its original inception at Cincinnati thirty-five years ago. The purpose of the call at that time was to inquire into new machines being invented and new methods being proposed for clayworking. From that time onward the big purpose of the N. B. M. A. has been to inquire into and test out theories and inventions with the one purpose in view of making better clay products more economically.

The progress of the clayworking industry in science and invention during the past thirty-five years has been greater in this country than in any country of the world during that

time, and it has been more than all the progress made in the industry up until that time. Could one ask for a stronger testimonial value of an organized effort of this kind in which theory and practice are hitched up together for the best order of team work, and in which experience proves out and encourages invention?

#### TARIFF TROUBLES.

There will be tariff troubles in the air this year, all kinds and varieties of them. Moreover no one should really envy those who have before them the task of working out the tariff schedule. We have with us those who along party lines used to argue in favor of a tariff for revenue. Others who sought a tariff for protection and to quite an extent these old party lines will still be guide posts of direction. As a matter of fact however the tariff efforts of today should be founded on the basis of careful analysis of international trade relations and conditions and in their make up should include a proper combination of both the ideas of protection and revenue. It is easy enough to set forth this theory but it is going to be a complex job to figure something specific out of it. So while we have a right to our own ideas and beliefs let us also be tolerant of others and realize the task is a difficult one in which we should seek to assist rather than to hamper progress.

#### SHOULD WE SUBSIDIZE BUILDING?

There is unanimous agreement among building material people that we should encourage building and especially home building. Moreover the urge to encourage home building is increased by census figures showing that 60 per cent of our population are without homes. Therefore no one will gainsay the need to urge home building. But there is some question of our enthusiasm in this work getting the better of our judgment as to what is right and proper. The main need for home building is one of finance, and some relieving of tax burdens and other handicaps to financing will meet with general approval. When it comes to exempting new homes from taxation however we have reached the point of subsidizing and taking up a proposition of doubtful merit. The tax burden is a heavy one today and when we begin exempting special lines of endeavor we begin piling up the burden on others. In short we penalize the thrifty man who has already built his home with heavier taxes to encourage some less thrifty man to turn thrifty and build a home. A little of this goes a long way and we should be mighty careful lest our enthusiasm carry us to regrettable extremes.

#### CHIMNEY FLUE SHAPES.

Professor Woolson in the discussion of flue linings at the big gathering of the clans recounted some interesting discussion on the question of whether flue linings should be round or rectangular. When we view this impartially we find that the natural shape would be round but the more convenient shape would be rectangular and there is not enough practical difference in their service for us to wrangle about it. It is a fact however that most of the big chimneys for industrial purposes are round while the small chimneys and flues in buildings are rectangular. On steam power plants the smoke stacks were made round just like a stove pipe because this is more convenient and is more nearly the ideal manner of getting a given area with the smallest amount of material. When permanent stacks were built of brick they naturally conformed to the round smoke stack already in use. In building homes the rectangular form was evidently re-



sorted to simply because it fits in better with the brick work which goes along with it and the conveniences here outweigh any disadvantages of the rectangular type of flue. So while the round shape is perhaps the nearer ideal it is the rectangular shape that is likely to prevail in flue linings.

### SAND-LIME BRICK MANUFACTURERS MEET AT DAYTON, OHIO.

**A**N interesting program has been prepared for the seventeenth annual convention of the Sand-Lime Brick Association, to be held at Dayton, Ohio, April 26 and 27. The Miami Hotel will be headquarters. There is a treat in store for the delegates, for the sessions will be held at the plant of President W. H. Crume, where a number of improvements have recently been installed that make it the banner sand-lime brick plant of the country.

The first session will be held on the roof of the hotel Tuesday, April 26, at 10:00 a. m. The following sessions will be held at the plant of the Crume Brick Co. Among the papers to be presented are the following: "New Devices Installed at Crume Brick Plant," W. H. Crume, Dayton; "Material Handling in Sand-Lime Brick Plants," F. C. Smith, Aurora, Ill.; "Importance and Accurate Compounding of Ingredients in the Sand-Lime Industry," J. C. Schaffer, Pittsburgh, Pa.; "Marathon Mill for Grinding and Mixing for Sand-Lime Brick Industry," Ernest C. Johnson, Champaign, Ill.; "Lubrication of Sand-Lime Brick Plants," E. N. Corbin, Philadelphia, Pa.; "Report of Committee on Tests and Standards," John L. Jackson, Saginaw, Mich.; "The Effect of the Grading of Sand upon the Properties of Sand-Lime Brick," W. E. Emley and H. V. Johnson, U. S. Bureau of Standards, Washington, D. C., and a paper, the title of which is not yet announced, by Robert J. Marshall of the Canadian Inspection and Testing Laboratories, Toronto, Canada.

It has been suggested that some of the members may auto to the convention. Those intending to do so, if they desire information in regard to the roads in Ohio, are requested to communicate with President Crume who will gladly give the desired information.

### IT IS C. & G. POTTS & CO. NOW.

The C. & A. Potts & Co., one of the oldest soft mud clay-working machinery companies in the United States recently changed slightly the firm name. It is now C. & G. Potts & Co. This change was simply a matter of form for the officers of the company have been the same for several years past. George Potts is president, Mary Potts, secretary, and Clayton Potts, treasurer.

The change in the firm name does not affect in any way the policy of this well known concern, which will continue along the same line as it has for the past forty years, furnishing the trade with their high grade brick machinery and brick yard equipment on the same satisfactory terms.

They have under course of construction at this time a new foundry which will double the capacity of their plant. This will join their present building on the west and will be of brick and steel, 70 by 130 feet and one story in height, costing approximately \$80,000. This will house an up-to-the-minute foundry with all modern equipment, including an electrically driven traveling crane.

This foundry will be used for making grey iron castings, while in the old foundry steel castings will be made. The enlargement of the plant was made necessary by the demand for their equipment and municipal work. See their advertisement on pages 520 and 521.

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#### STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,

required by the act of Congress of August 24, 1912, of The Clay-Worker, published monthly at Indianapolis, Ind., for April 1, 1921.

State of Indiana, County of Marion, ss:

Before me, a notary public in and for the state and county aforesaid, personally appeared Theo. A. Randall, who, having been duly sworn according to law, deposes and says that he is the editor and business manager of The Clay-Worker, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

That the names and addresses of the publisher, editor, managing editor and business managers are:

Publisher, T. A. Randall & Co., Inc., Indianapolis, Ind.

Editor, Theo. A. Randall, Indianapolis, Ind.

Managing Editor, none.

Business manager, Theo. A. Randall, Indianapolis, Ind.

Owners are T. A. Randall & Co., Inc., Indianapolis, Ind.; Theo. A. Randall, T. B. Randall and Jas. E. Randall, Indianapolis, Ind.

Known bondholders, mortgagees, and other security holders holding 1 per cent. or more of total amount of bonds, mortgages or other securities: None.

That the two paragraphs next above, giving the names of the owners, stockholders, security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) Theo. A. Randall, Editor.

Sworn to and subscribed before me this 26th day of Mar., 1921.

(Signed) CHRISTA A. LEWIS, Notary Public.

My commission expires June 30, 1921.

[Seal]

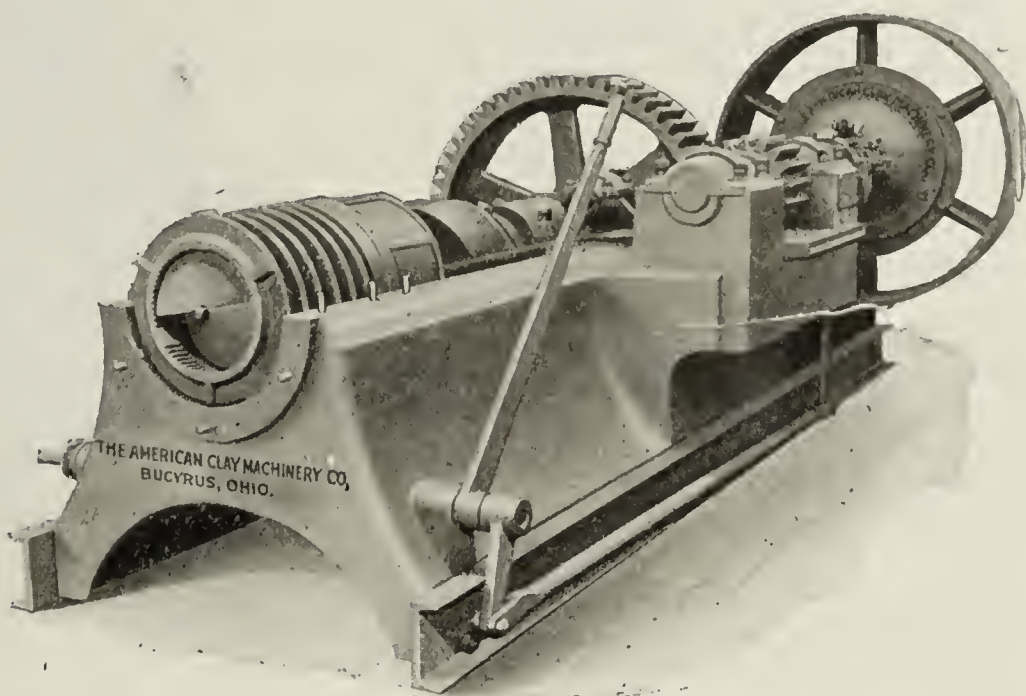


## American No. 233 Auger Machine

The American No. 233 Auger Machine is an Easy Running, High Quality machine of great capacity.

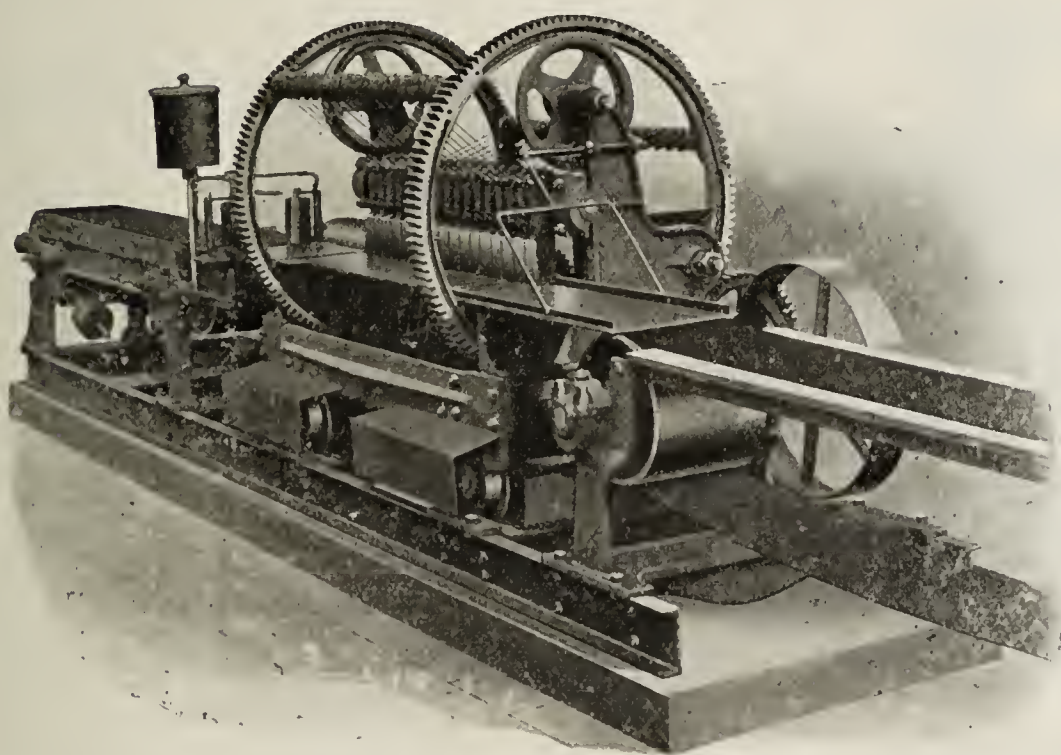
It is adapted for making all classes of clay products, brick, tile, and hollowware. It makes an excellent product, is simple to operate and light on power.

For making any kind of clay products and especially where a plant is producing both brick and hollow ware, it is a machine which can not be too highly recommended. Send for Bulletin No. 233.



**American No. 233 Auger Machine**

## American No. 342 Cutter



**American No. 342 Cutter**

This cutter is well built. The material and workmanship are unsurpassed. It is simple and easy to operate. It cuts accurately and is not likely to get out of order. Get Bulletin No. 342 for a complete description.

**The Hadfield-Penfield Steel Co., Bucyrus, Ohio**

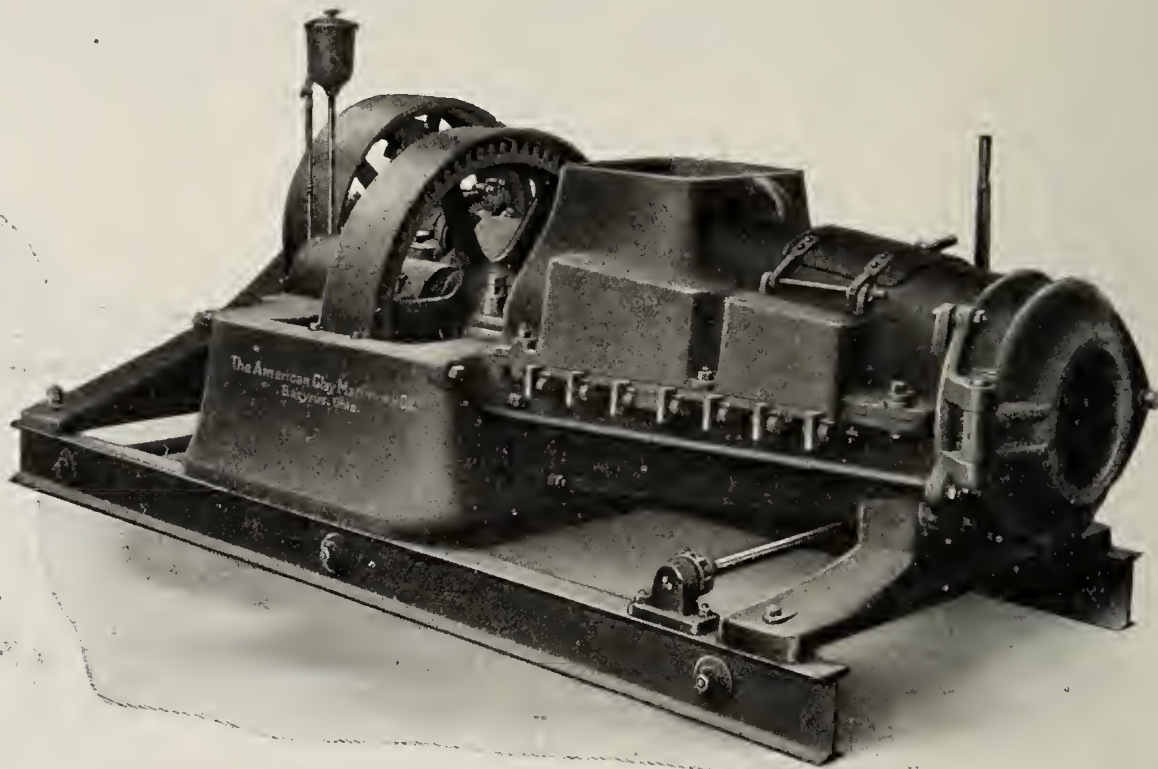
Formerly The American Clay Machinery Co.



### American No. 168 Pug Mill.

Where extra pugging is desirable the American No. 168 Pug Mill will be found superior. This pug mill has great strength and ample capacity. The power required is moderate. We can recommend the No. 168 Pug Mill to any clayworker whose material requires thorough pugging.

We build every machine and appliance a clayworker needs and will be pleased to hear from the trade.

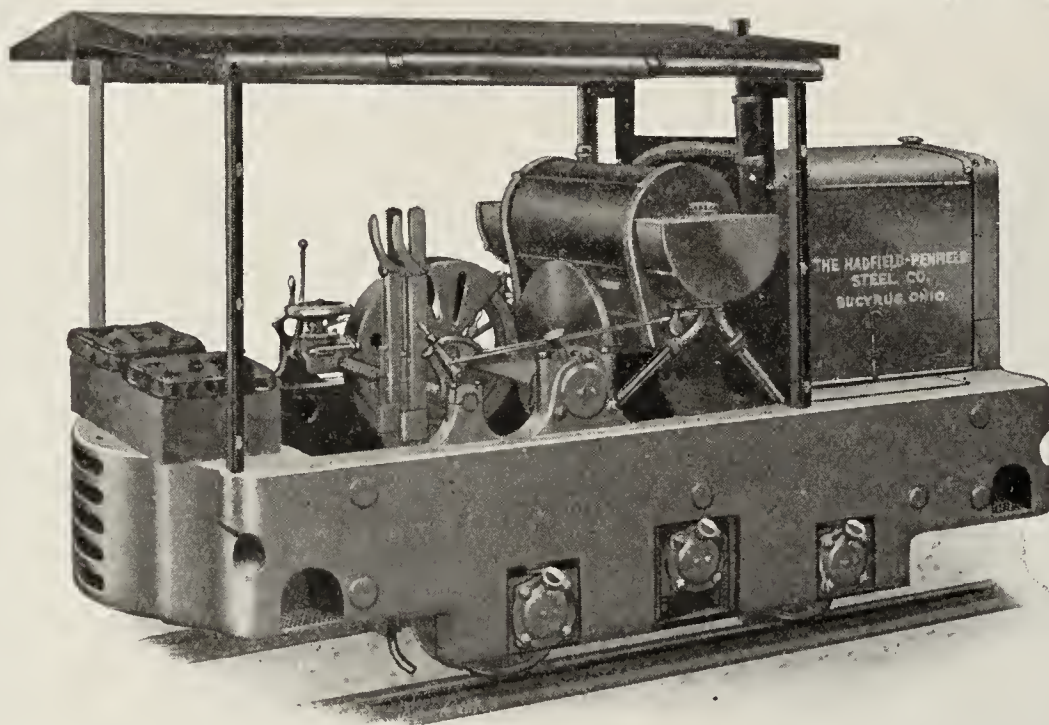


American No. 168 Pug Mill.

## The Hadfield-Penfield Steel Co., Bucyrus, Ohio

Formerly The American Clay Machinery Co.

### The American Gasoline Locomotive.



American Gasoline Locomotive.

The cheapest clay haulage is the gasoline locomotive and the best locomotive for the job is the "American". Clayworkers are moving from two to four dump car trains, each car holding  $2\frac{1}{2}$  yards. One user says, "The American Gas-O-Motive is doing fine work". Another says, "There is no indication of any possible trouble. It's built right."

Send for printed matter.

# THE HADFIELD-PENFIELD STEEL CO.

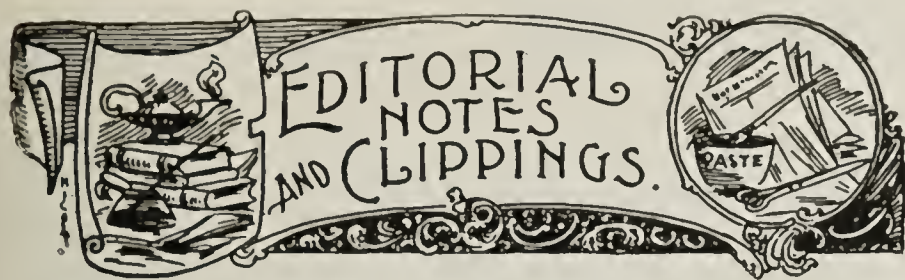
BUCYRUS

OHIO



Locomotive Sales Dept... 404 Hippodrome Bldg... Cleveland, Ohio..





The Robinson Clay Products Company, will erect a \$15,000 warehouse at Syracuse, N. Y.

The American Clay Products Company, of Charleston, W. Va., has increased its capital stock to \$50,000.

The Burton-Townsend brick plant at Ashtabula, Ohio, recently resumed operations and is now running to full capacity.

Construction work on the new plant of the Logan Clay Products Company's at Logan, Ohio, is now well under way. M. J. Kinder is superintending the work.

The office employes of the American Clay Products Company, South Amboy, N. J., were held up recently by two armed men who escaped with the pay roll of \$1,500.

The Ironclay Brick Co., Ruggery Building, Columbus, Ohio, has let the contract for the erection of a new plant on East Second street, which is to cost in the neighborhood of \$50,000.

The No. 1 plant of the Burton-Townsend Company at Zanesville, Ohio, started up the latter part of March on what they style a "100 per cent." basis, turning out paving brick.

The Chelsea Brick Company of Chelsea, Okla., has been incorporated by Leon C. Merritt and J. A. Morrison, of Chelsea, and W. L. Buckles, of Okmulgee, Okla., with \$50,000 capital stock.

The Harrisonville Brick & Tile Company, Harrisonville, Mo., resumed operations the first of April, after having been closed down for several months. They will manufacture building tile this season, as well as brick.

The Briggs Company, Lansing Mich., operating a brick manufacturing plant at Grand Ledge, Mich., is planning for the erection of a new factory at Durand, Mich., for the manufacture of brick, tile and similar products.

Gordon Hall has purchased the plant of the Gadsden Brick Co., at Gadsden, Ala., and will make a number of improvements, install additional machinery, including electric motors. When completed the plant will have a daily capacity of 40,000 brick.

The Rock River Coal & Fire Clay Company of Cheyenne, Wyo., has been incorporated with \$500,000 capital stock. The incorporators are G. W. Godfrey, E. K. McMann, E. B. Jarvis, G. O. Grunden, A. B. Eckdall, W. E. Dinneen and George Hackman.

Work is progressing very satisfactorily on the new plant of the Cheboygan (Mich.) Tile and Brick Company. A new switch is being run into the property by the Michigan Central Railroad. The officers of the company are: President, Dr. A. M. Gerow; Secretary, Herman Sheltley; Treasurer, David A. Hastings.

Faulstich Bros., brick contractors of Los Angeles, Calif., have purchased the brickyard and holdings of the San Luis Brick Company at San Luis Obispo, Calif., which they will operate along with their present plant at Long Beach. The plant just acquired will be under the management of D. H. Weldon, and will be equipped with machinery for the manufacture of hollow tile as well as brick.

Rebuilding of the works of the Tucson (Ariz.) Pressed Brick Company on West Congress street is nearing completion. Many thousands of dollars have been spent in the last few months on the new plant and production will be increased many times. John Curtis, manager of the plant, is in charge of the operations. No production has been carried on in the works of the company for several months.

E. E. Burns and W. L. Nassau have purchased the Sautter brick plant on South street, and leased the Sautter plant on Elm street, Northampton, Mass. The management of the plants will be looked after by Mr. Burns. Mr. Sautter retires after twenty years active work in the brick business, becoming interested through his father-in-law, W. A. Bailey,

who was one of the pioneer brick manufacturers of New England.

R. P. Johnson, Wytheville, Va., is in the market for second hand brick machinery.

The Corbin (Ky.) Brick Company has increased its capital stock from \$30,000 to \$50,000.

The Enamel Brick & Tile Company will make a number of improvements at their plant at Old Bridge, N. J.

Work was resumed at the Veedersburg Paving Brick plant, Veedersburg, Ind., the latter part of March, after a shut down of four months.

Fred M. Staunton, president of the Standard Brick Co., of Charleston, W. Va., announces an increase in the capital stock of the company from \$10,000 to \$150,000.

The Sutton (W. Va.) Building Corporation, was recently organized for the manufacture of brick and building tile. Benton B. Boggs, is at the head of the concern.

R. O. Clark & Sons' brickmaking plant at West Cromwell, near New Britain, Conn., was damaged to the extent of \$5,000 by fire which started in the kiln sheds.

Anton Vogt & Sons have purchased a brickmaking plant at Missoula, Mont., which they are remodelling and would like to receive catalogues of machinery and supplies and information relative to kilns.

The new plant of the McGraw Brick Company at Gaffney, S. C., has started operations, the first kilns having been fired April 1. C. D. Meadows, the general manager, is very optimistic over the future of the company.

The Idaho Fire Brick Co., Troy, Idaho, manufacturers of high grade fire brick of all sizes and shapes, is a wide-awake firm which believes in advertising. One form of advertising recently sent out is a series of blotters which are both useful and attractive.

The plant of the Denver Shale Brick Co., located at Arvada, Colo., near Denver, sustained a \$15,000 fire loss early in April. Lack of equipment with which to fight the fire hindered the management in their work of subduing the flames. C. E. Smith is the manager of the plant which will be rebuilt.

Morrissey & Co., brick manufacturers, have purchased the B. J. Allison & Co. brickyard in Haverstraw, N. Y. The consideration was approximately \$50,000. The property is located between the yards of the Garner Brick Company and the Archer properties, and for the past few years has been operated by James J. Byrnes.

The Missouri Pressed Brick & Improvement Company, of St. Louis, Mo., recently announced a cut in the price of their brick to \$10.00 and \$12.00 per thousand. H. C. Koenig, president of the company says the great reduction is made in order to stimulate building. The employes of the plant have agreed to a 50 per cent. wage reduction in order to enable the decrease in price of brick, which would not have been possible on the old wage standard.

The Moberly Paving Brick Co., of Moberly, Mo., recently entertained the members of the Moberly Chamber of Commerce at their plant. The visitors were taken out in big trucks and after a thorough inspection of the various departments of the plant, starting at the clay bank where the big steam shovel was in operation, and winding up at the kilns; later an appetizing lunch was served. The company is now running full capacity, and ships on an average of 200 cars per day.

L. Perry West, of West Brothers Brick Co., Washington, D. C., writes business is improving in that district, notwithstanding the fact that there has only been a reduction of \$1.00 per thousand in the price of brick, representing a little more than the saving on coal, while wages and all other supplies remain at peak prices of last year. Mr. West thinks the greatest hindrance to a normal resumption of building operations is the failure of skilled labor to accept a reduction in wages. There is no more brickyard labor in Washington than is actually needed, and there has been no reduction in labor to date. Another factor of equal importance, Mr. West thinks, in considering the resumption of building, which everyone knows is vital, is finance. The greatest stimulus that could be given this phase of the building industry would be to make real estate securities, notes and bonds, exempt from taxation, which would tend to divert enormous sums of investment into this channel.



Erection of a mill for the Western Silica Co., at Fifty-seventh and Santa Fe streets, Los Angeles, has been started. Silica and feldspar will be ground. The first unit of the plant is to have a capacity of 35 tons daily.

Hearty congratulations and best wishes are extended by the clay working industry to Mr. and Mrs. George E. Burnham, who were married at Chicago in March. Mr. Burnham is president of the Burnham Bros. Brick Co., Milwaukee, and his wife was formerly Miss Augusta O. Gilbert of Wauwatosa, Wis.

The L. E. Rodgers Engineering Co., of Chicago, is preparing the plans and specifications for the new plant of the Midvale Clay Products Co., New Philadelphia, O., recently incorporated for \$350,000. Brick, fire proofing and hollow block will be manufactured. The company owns 320 acres of clay and coal and the plant will operate 20 kilns employing 200 men.

Anton Stiel, pioneer brick and tile manufacturer of Jefferson, Wis., and the "Grand Old Man" of the Wisconsin Clay Manufacturers' Association, celebrated his 80th birthday anniversary at his home in Jefferson. Mr. Stiel continues active interest in the Jefferson Brick & Tile Co., of which he is secretary and treasurer, and enjoys good health in spite of his advanced age. The occasion of his birthday was celebrated by a gathering of the family and relatives from other cities.

The Big Horn Basin Clay Products Company, Lovell, Wyo., manufacturers of brick, hollow building block, drain and sewer tile, is now engaged in filling a contract of twenty-inch sewer tile for the city of Greybull, which will be used by Greybull in the construction of sewer and culverts prior to paving its main street. The product of this plant is improving daily and this job of sewer tile is about as near perfection as it is possible to attain. The company has just recently completed two more of the down draft kilns for the purpose of burning tile and the Greybull contract will be the first burning for the new kilns. The two new kilns just completed now gives the company five kilns, with a capacity of 300,000 brick. Ac-

cording to Manager H. J. Arnoldus, the company now has on file advance orders for all of the product it will be possible to turn out during the next three months, running the single shift. While a majority of the orders are drain tile, Mr. Arnoldus says that there is growing demand being made for the hollow building block and brick which is being manufactured by the company.

Thomas M. Wilson, of Greensburg, Pa., has purchased a large tract of land containing extensive coal and clay deposits, forty-five miles east of Pittsburgh, where he will superintend the building of an up-to-date plant for the manufacture of high-grade silica and fire brick. Later on they will erect a sewer pipe plant on the same property. Mr. Wilson also has purchased a new home at 3504 Fifth avenue, Pittsburgh, Pa., where the Brick and Clay Engineering Company, of which he is president and general manager, will be located after May first.

I. A. Ryttenburg, the dynamic president of the Sumter Brick Co., Sumter, S. C., writes from Boston, Mass., where he had traveled to give his personal attention to the laying of some of their Dixie Texture brick in a fine residence there which is to cost upwards of half a million dollars, that they secured this job calling for 200,000 of the Dixie Texture brick strictly on the merits of their brick without any competition. Perhaps this "personal service" accounts for much of the success Mr. Ryttenberg has attained in the introduction of his brick.

A. E. Eaton, a brick man of many years experience, is at the head of a company recently organized at Mineral Wells, Texas, where a large paving brick plant is being erected, and Mr. Eaton writes he expects to start making paving brick some time in May. The plant will be equipped with modern machinery and equipment for the manufacture of paving brick. Four kilns have already been built, and it is Mr. Eaton's plan to have fifteen when the plant is really completed. The company has a very fine deposit of shale, enough, they estimate, to last one hundred and fifty years, and after that they feel they need not bother.



SEND  
FOR  
THIS  
BOOK

## RUSSELL

(Zwermann Patents)

### TUNNEL KILNS

*Here is Some Real Information  
on the Tunnel Kiln*

"MODERN FIRING" is an interesting and practical discussion of the tunnel kiln, explaining fully this method of firing wares, its adaptability to the clay products field and the way in which savings over periodic kiln firing are effected.

*A COPY MAILED ON REQUEST WITHOUT CHARGE*

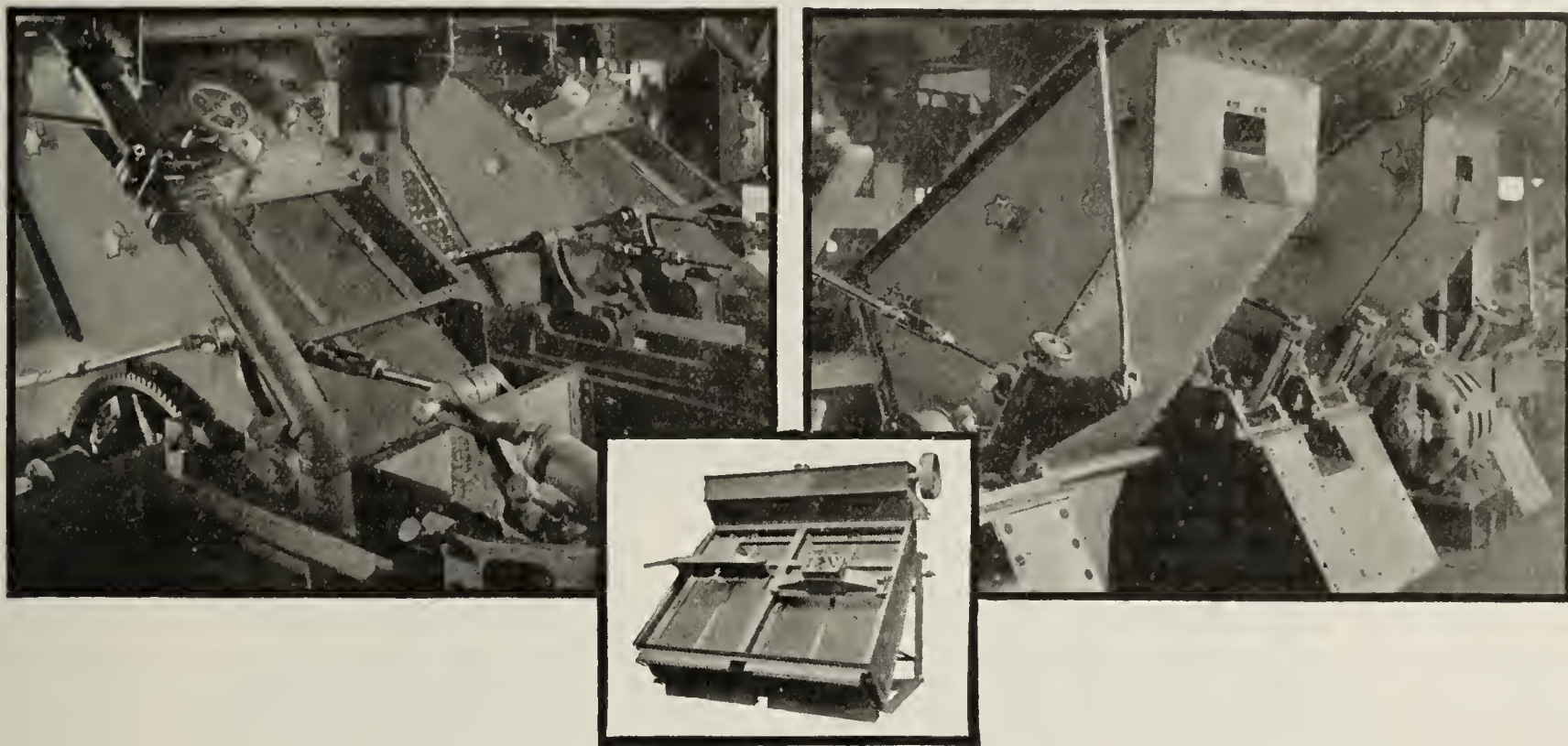
**RUSSELL ENGINEERING CO.**

RAILWAY EXCHANGE BLDG.

ST. LOUIS, MO.



# HUM-MER *Electric* SCREEN



## Bethlehem Steel Co.'s Report

"Before passing our coal through the wet washery, we have been screening it by the HUM-MER Process in order to eliminate a portion of the fines.

"Our installation consists of a pair of screens 3 ft. in width and 5 ft. long, a total of 30 sq. ft.

"We had estimated that these screens would have a capacity of about 25 tons an hour, but in many cases they have handled as much per hour as 110 tons of coal having as high as 10% moisture. This performance has never been equaled by any other screening process with which we are familiar.

"So far as we are able to ascertain, the HUM-MER Process involves a lower first cost and a smaller operating expense than any other screening process.

"The most distinctive feature of the HUM-MER Screens is their great capacity. It is this combination of great capacity with low cost which has made them practical for our work.

"The HUM-MER Screens are very convenient, the parts being readily accessible for quick repairs and cleaning.

"Both of these operations are easily accomplished without shutting down the entire plant.

"We have found the manufacturers very satisfactory people to deal with, and we appreciate their co-operation in helping us make our use of the HUM-MER Screens a success."

(Signed) FRANK A. ROBBINS, JR.,  
General Manager

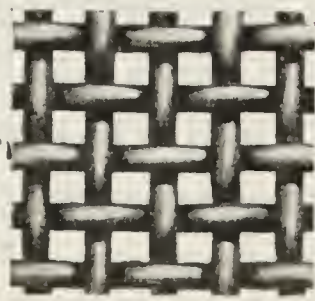
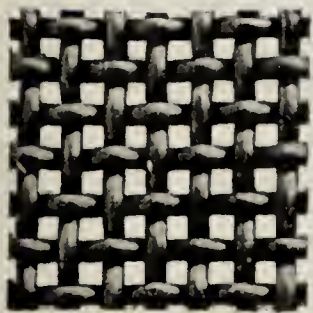
BETHLEHEM STEEL COMPANY

Send for

HUM-MER Electric Screen Catalogue No. 42 W

THE W. S. TYLER COMPANY  
CLEVELAND, OHIO

Manufacturers of Woven Wire Screens and Screening Equipment





Written for THE CLAY-WORKER.

# BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.

THERE was a let-up of construction work in Evansville and many of the towns in southern Indiana on the first of April by the fact that in many instances the contractors and building trades were unable to come to any agreement on the new wage scale for the present year. At Evansville the contractors announced there would be a reduction in wages of 20 per cent over the scale of last year and this the building trades rejected by a unanimous vote. The leaders of the building trades said that prices of the building materials had not yet dropped to the point where the building trades felt they should stand a cut. Several conferences were arranged and at the last conference the building trades said they would agree to a 10 per cent cut and were willing to submit the matter to arbitration but this proposition was rejected by the contractors who stood by their original announcement of a 20 per cent cut in wages. It is believed as this article is written that there will be another conference and that some sort of an agreement will be reached. That the contractors will not agree to the 1920 scale of wages is generally admitted and the workers will have to accept a lower scale. Bricklayers now are receiving \$1.25 an hour and the contractors asked them to accept a new scale at \$1 an hour. Other cuts proposed by the Evansville contractors were: carpenters, from \$1 to 80 cents an hour; electricians, \$1 to 80 cents an hour; painters, \$1 to 80 cents an hour; plumbers, \$1 to 80 cents an hour; steel workers, \$1 to 80 cents an hour.

In spite of the tie-up of building trades at Evansville plans are going forward to build considerable houses during the present season. William Johann, of the Evansville Plan-

ing Mill Company announced a few days ago that his concern had purchased 168 lots and that it was their purpose to build at least fifty houses during the summer. The Eugene Stevens Real Estate Company also will erect at least fifty houses in the city this summer and other real estate and building companies have large plans for the season.

Henry C. Kleymeyer, president and manager of the Standard Brick Manufacturing Company, started the ball rolling in Evansville a few days ago when he announced a cut of 25 per cent in the price of brick. Brick that sold for \$20. a thousand are now being sold for \$15 a thousand. In 1914 the same brick sold for \$7 a thousand, but in 1914 coal could be purchased for \$1.35 a ton and the same coal in 1921 costs \$4.60 a ton, according to Mr. Kleymeyer. In 1914 he says that labor was \$1.50 a day and now it is \$4.60. Mr. Kleymeyer said that in order to maintain these prices it was necessary for his company to keep all their plants in operation all the time.

The new dryer for the West Salem Hollow Brick and Tile Company at West Salem, Ill., was completed a few days ago and the plant is now in operation. The prospects are that the plant will have a good business during the coming summer and the company hopes to keep the plant in operation on steady time the balance of the year.

The action of the Standard Brick Manufacturing Company at Evansville in reducing the price of brick 25 per cent. on April 1st is expected to force the brick manufacturers at Henderson, Ky., to take a similar step, according to the latest information from that city. Builders in Henderson say that if brick and lumber dealers reduce prices that more than 100 homes will be built in that city this summer. The Chamber of Commerce at Henderson has a plan to erect thirty-five new modern houses of four, five and six rooms this summer, but it is announced that no action will be taken until prices of labor and materials have been reduced. Although a number of new buildings were built in Henderson last year there is at present little construction work going on.

Brick manufacturers and retail dealers of Evansville are interested in the announcement that the dates for the third Evansville Exposition have been fixed at September 20th, to October 1st. Henry C. Kleymeyer, president and manager of the Standard Brick Manufacturing Company and president of the Evansville Chamber of Commerce has been made a member of the executive committee to arrange for the next exposition. Many of the manufacturers of the city will have large exhibits in the buildings during the exposition this year and in the opinion of Mr. Kleymeyer it will be conducted on a larger scale than in years gone by.

The various pottery plants at Evansville have been operated on part time only during the past two or three months but things are beginning to look brighter and it is expected that the hours of the workers will be lengthened along in May some time.

At the annual meeting of the stockholders of the Southern Indiana Clay Products Company at Huntingburg, held a few days ago, the following directors were chosen to serve the ensuing year: Daniel Reutepohler, Charles Moenkhaus, William E. Menke, Henry L. Smith, of Indianapolis, and W. M. Price of Allendale, Ill. Officers will be elected at a subsequent meeting. 1920 was the most prosperous in the history of the company, which has one of the best equipped plants in southern Indiana, and the outlook for the coming year is said to be quite promising.

The United States Brick Company at Tell City, a few days ago received a large order for brick from an Indianapolis concern and also an order for a large building at Paducah, Ky. This company enjoyed a fine trade during the past year and is expecting to get its share of the business during the coming year.

A HOOSIER.

## Something New for the Kiln

Gleckler's new system of protecting the heads of kiln arches in the clamp kiln has recently been perfected. It entirely eliminates all melted and broken brick in the arch heads and leaves finest face brick throughout the entire arch, and with less effort than you ever used before.

It is to the BRICK ARCH what springs are to the automobile. It moderates the cold air which enters the arch while firing or cleaning grates and scatters the heavy flame that follows. It prevents all the flame from striking the same little spot in the headers as it shoots into the arch, but instead of striking altogether on the first four feet, it gives the headers only what they require, and what is over is completely knocked to pieces and is thrown toward the center in the form of spray.

The SYSTEM is put on a season's trial, fully guaranteed to give entire satisfaction. The limit of our hopes is 100 per cent face brick in the arches.

You can lose nothing in trying out my system, as it requires no altering of arches and can be taken down and set up again in 15 minutes. It does away forever with the forced sale of culls for top prices.

Write at once for particulars.

Patent applied for.

**FRED GLECKLER**  
**Oak Harbor Ohio**

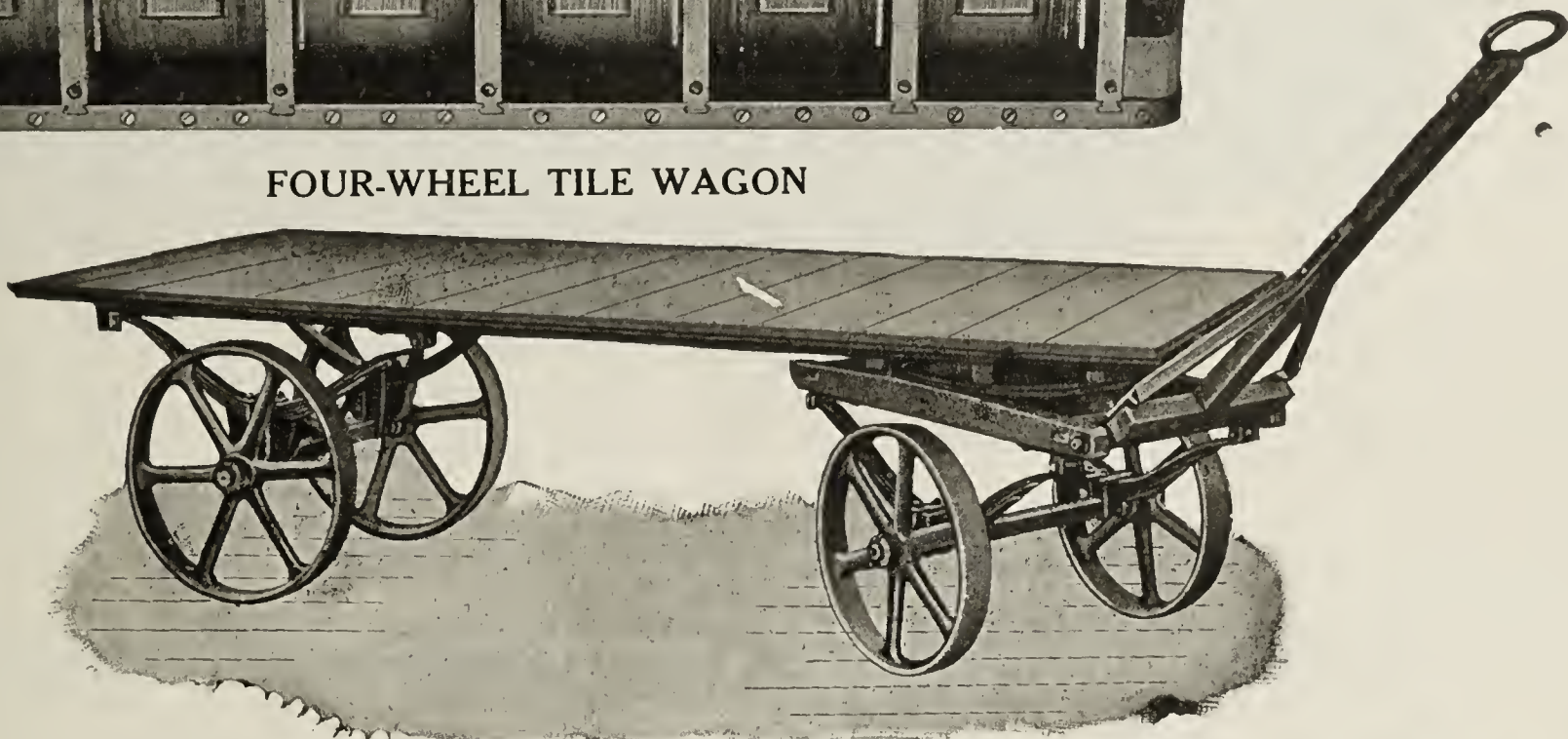


# IF YOU GET THE "WELLINGTON" YOU GET THE BEST

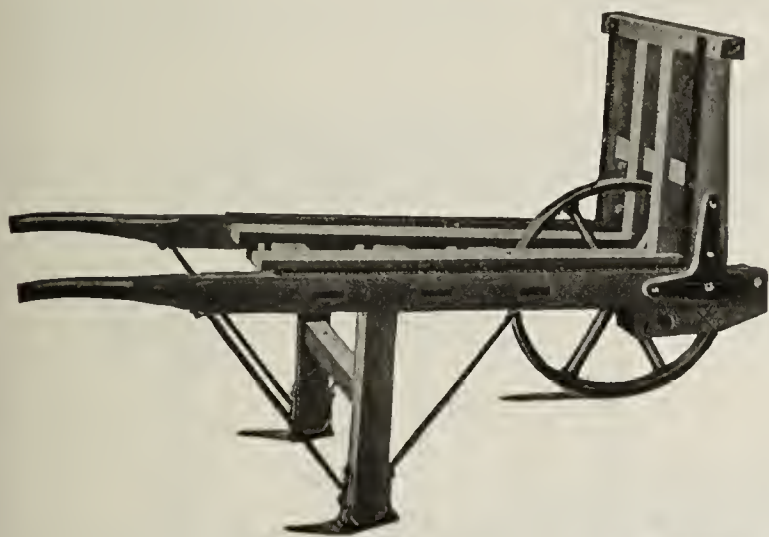


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Accurate to di-  
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soft mud,  
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Extra Heavy BURNT BRICK  
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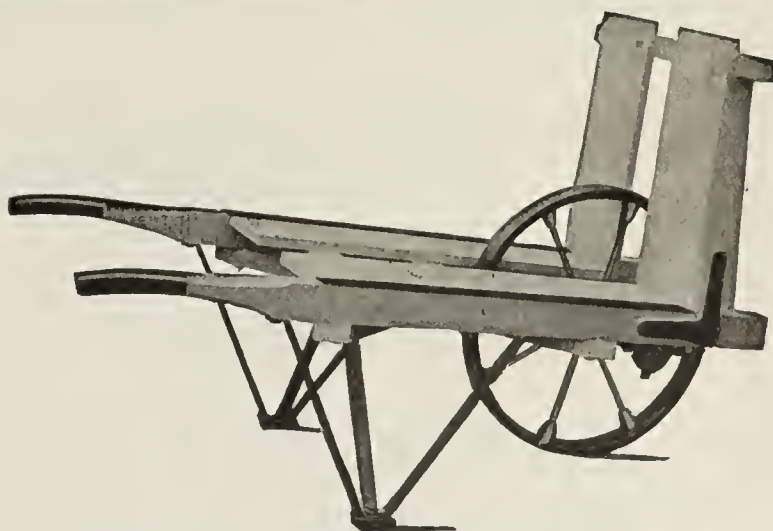
SPRING BRICK BARROW  
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STEEL SLAT BARROW

**THE WELLINGTON MACHINE CO.,**

**Wellington, Ohio**

Mention THE CLAY-WORKER.



Written for THE CLAY-WORKER.

#### NEW YORK SITUATION.

THERE SEEMS to be every indication for an increase in the general activity in this section. The housing operations have had a sharp advance during the past month.

The brick market shows the effect of the revival of home building, and has produced a steady call for early deliveries. The demand for burnt clay products is maintaining a lead that is enviable. Producers are beginning spring manufacturing on a broader scale than was originally planned, due to encouraging aspects of the situation. Construction for industrial purposes is and continues to lag behind.

The labor situation is improving, both as to the employers and employes, with no visible change forthcoming in the future. As long as this condition can hold, everything will slide along in a way to bring on normal times.

The brick market shows a very prominent movement, every day bringing increased inquiries and sales. In fact, the activity is greater than it has been for several months. There has been a material increase of stocks, and the sales have aggregated almost thirty cargoes. Brooklyn shows an increase in residence building and as a result several cargoes have found their way to this point.

There is no evidence of any price change in the immediate future. The level ranges between \$16.00 and \$17.00 for the selling price. \$45.00 is the price quoted on a load of 3,000 second hand brick. The red varieties are selling around \$45.00 delivered, grays are changing hands for around \$55.00. Fire brick are firm at former prices, while the demand for other burnt clay products is fair, there is stability in their

prices. Face brick is receiving its momentum from the increased sales of common brick.

The State Senate has passed three bills for road improvement during the coming year. This will be a golden opportunity for paving brick men, to get a portion of the \$9,599,676.00 allotted to this work.

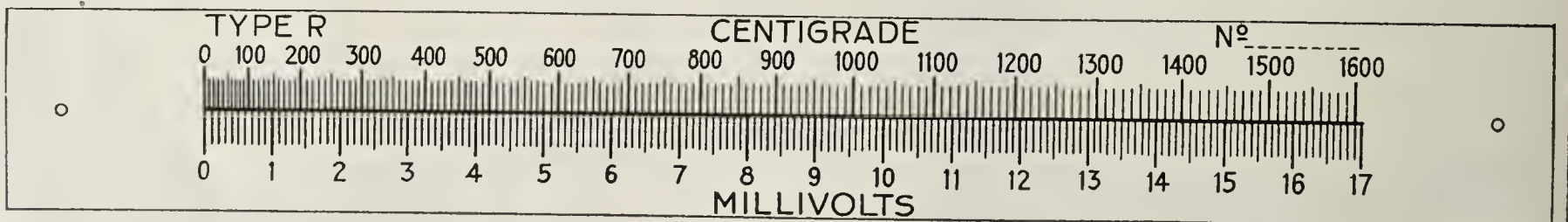
There is some talk of erecting a brick manufacturing plant in the borough of Queens in Brooklyn, N. Y. There is very little clay in this section suitable for the manufacture of this product, but the projectors claim clay can be shipped into the borough as easily as sand can go into her sister borough Manhattan. It now remains to be seen if such can come about. It is hoped to be able to sell the finished product cheaper than the price now paid at the distributors.

The New Jersey Terra Cotta Co., New York, has started the season with a rush and is looking forward to a very busy season. Estimates are wanted, not only from this city but from all over the country, which would indicate the building trades intend really doing some work this year.

The producers in the North River section are in a very optimistic frame of mind. A number of plants that had deterred immediate manufacture are to get started soon. The labor questions in these producing sections show every sign of improvement over those of last year, with men plentiful, willing to work, and willing to accept the reduction in wages. This is encouraging and it is hoped the 1921 season can send out substantial production with allotments well taken up.

BURTON.

It was a good stroke of both business and diplomacy for the face brick people to secure the co-operation of architects in their publicity work for face brick.



This part of the temperature range is like the last half mile of a five mile run. To cover it, head up, and running in form means strength, stamina and lots of "guts."

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are working every day in this range because their thermo-elements and mountings are built to stand the gaff. And the ability to stand up in this range means added service and durability in the lower ranges.

The runner who comes through in the last half mile is master of the race all the way. For any part of the scale

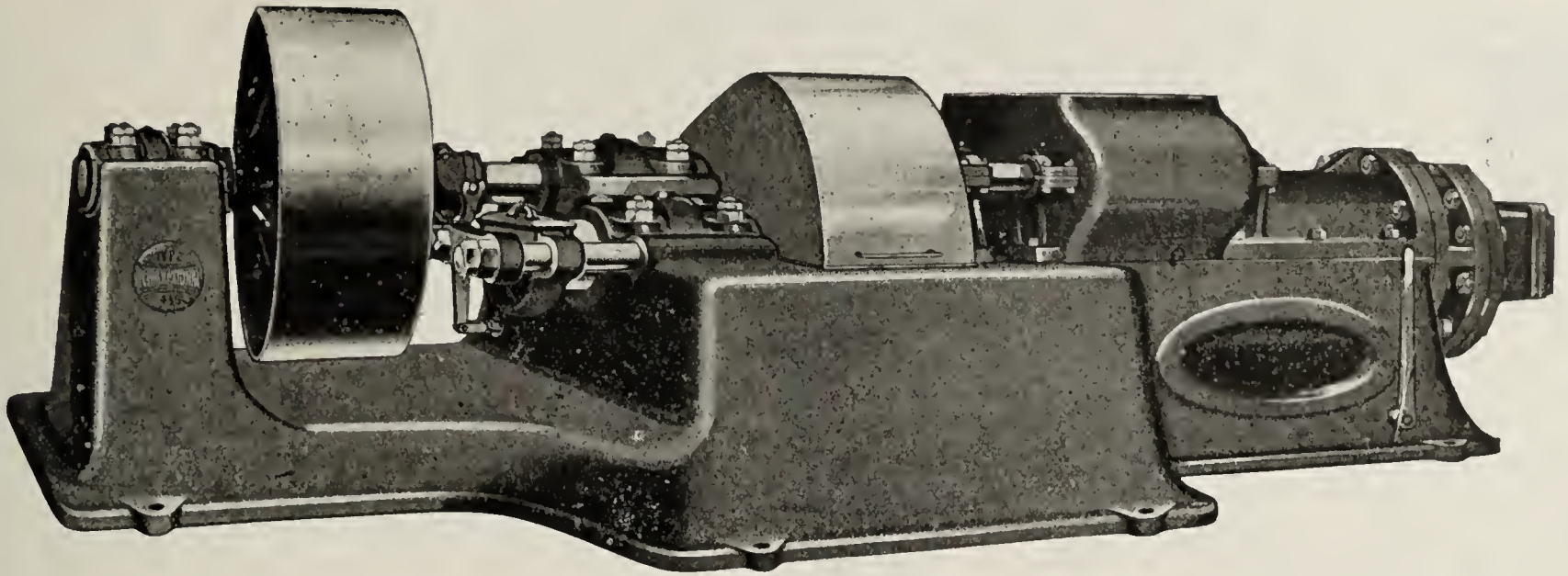
**ENGELHARD PYROMETERS ARE GOOD  
PYROMETERS TO STANDARDIZE ON.**

**CHARLES ENGELHARD, Inc.**

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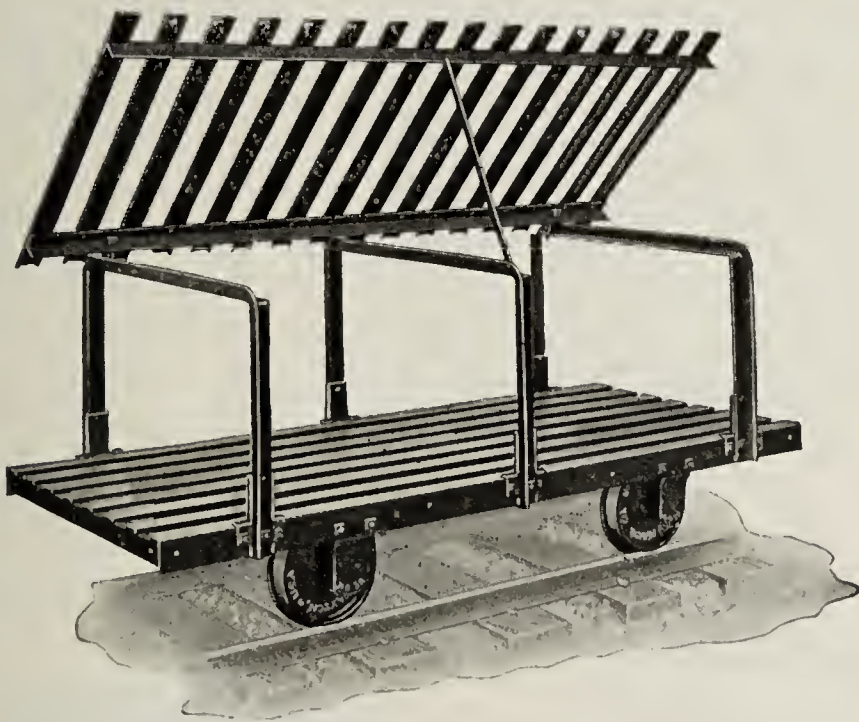
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A Complete Line of  
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Written for THE CLAY-WORKER.

**CINCINNATI BRICK AND BUILDING NEWS.**



**I**S NOTED that there has been some improvement in the demand for building materials here in the past months. The improvement, however, has not been very great as yet. The reasons for this lack of hoped for activity can be found in several drawbacks, one of which stands out as a rather serious handicap. This pertains to the continued high cost of materials and labor. In order that this could be verified, and the real status of the case noted, a committee was formed some time ago for the purpose of investigating the actual conditions.

This committee met some days ago with a number of interested parties and its report was heard. The meeting was marked by a decided opposition to allowing any increases in wages to any of the trades, and will oppose any strike that may be put into action. The matter of prices on materials, which was made the subject of a lengthy report, shows that the city of Cincinnati is required to pay, on the average, a higher freight rate, and the home owner is thereby made the victim of the increase, because of the prices asked on materials that are either shipped or stored are higher on this account. So this can at least be noted as one of the reasons for a lessened demand, with the prices on both labor and materials in excess of what they should be now.

It is true that the number of building permits for the month of March shows a very much better indication than was the case for the same month a year ago, according to the report of the Building Commissioner. In March, 1920, for instance, there were 12 brick houses built here at an aggregate value of \$90,000, and for the past month the number was 39, with an aggregate value of \$281,200. The total number of permits issued for March 1921, was 272, representing an outlay of \$1,123,410.

The number of permits issued in Covington, Ky., for the month of March was 75, costing \$112,000.

The annual election of officers for the Builders' Exchange was held at the Exchange recently, and the new officers elected were: Ed. Brockman, president; T. M. Craven, first vice-president; H. Huber, second vice-president; George Sawyer, secretary; Julius Hesterberg, treasurer; William Miller, William Leiman, W. F. MacConnell, Al Weist, Max Stopper, D. P. Bishop, James Dugan, William Layer and A. E. Otto, members of the Executive Committee. There were two tickets in the field, the red and the blue and with two exceptions the red won. Refreshments were served during the election. A short talk was made by W. T. MacGarvey, a general brick

contractor, about the national meeting held at Savannah, Ga., in March.

The reports show that the public is still inclined to wait, despite the fact that a serious shortage of houses exists. It is true that a number of projects are under way, and some larger plans are being prepared, but the tendency is to hold off until the situation shows some signs of lower prices, which do not appear to be possible without a reduction in the freight rates, and a lowering of the wages.

What is known as the Towers Hotel Co., with a nominal capital stock of \$10,000, has been incorporated here for the purpose of building an apartment building of an exclusive type. Later the company will have a capitalization of \$1,350,000. Preliminary plans have been prepared by Architects Dittoe, Fahrenstock and Ferber, that call for an expenditure of about \$2,000,000. The idea is to build an apartment hotel, wherein each tenant will be a stockholder. It will have a frontage on Reading road of 250 feet and will contain 350 rooms, arranged in apartments of two and five rooms each, or 130 apartments in all. There is to be in addition a dining room to accommodate 500 persons, and a ball and banquet room 60 by 100 feet. There will be a garage in the basement to contain 150 cars. The building will be six and eight stories high.

Seven homes are to be built in the Gordon homestead holding, 3840 Clifton ave., that will cost about \$150,000. These will be built by H. A. Faber. All the homes will be of the English Tudor type.

The Middletown Hotel Co., Middletown, O., will build a hotel to cost \$500,000, at Second and Broadway.

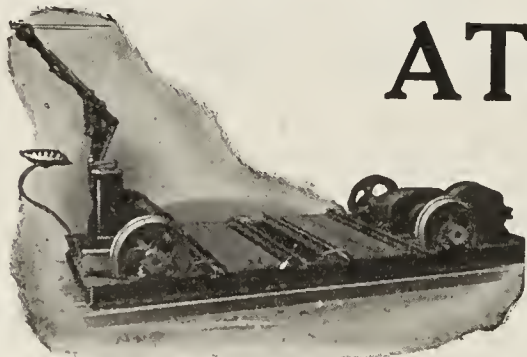
There has been only a nominal demand as noted by the Cincinnati Clay Products and Supply Co., for brick and clay products. The high freight rates have been a factor in keeping the prices up, and the public will not go ahead with that same degree of activity as would otherwise be the case. The company will not resume the manufacturing of building brick at this time as the demands are too slow.

The Builders Material Co., see no great improvement in the demand for brick and allied lines, though there seems to be a better tone to the market. It is not likely that there will be much in the way of a better demand while the cost of both material and labor are high, and these continue to hold firm.

The situation noted now by the Moores-Coney Co., in the face brick branch of the industry is rather more favorable than it has been, but is still lacking in the volume that should be looked for at this season of the year. While there is a little better demand it is not nearly what is usual at the present season, though of course there are some handicaps that are being felt now.

No decided change in the demand for brick is seen by the E. F. Grand Brick Co., and the spring has come without nearly as much activity as could be wished for at present. The demands are slow and the trade is not nearly what it might be looked for now, as prices are not calculated to help matters.

CINCY.



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Double Truck Electric Transfer Car.

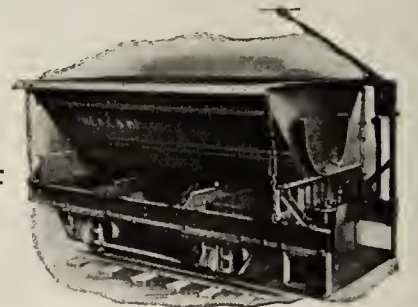
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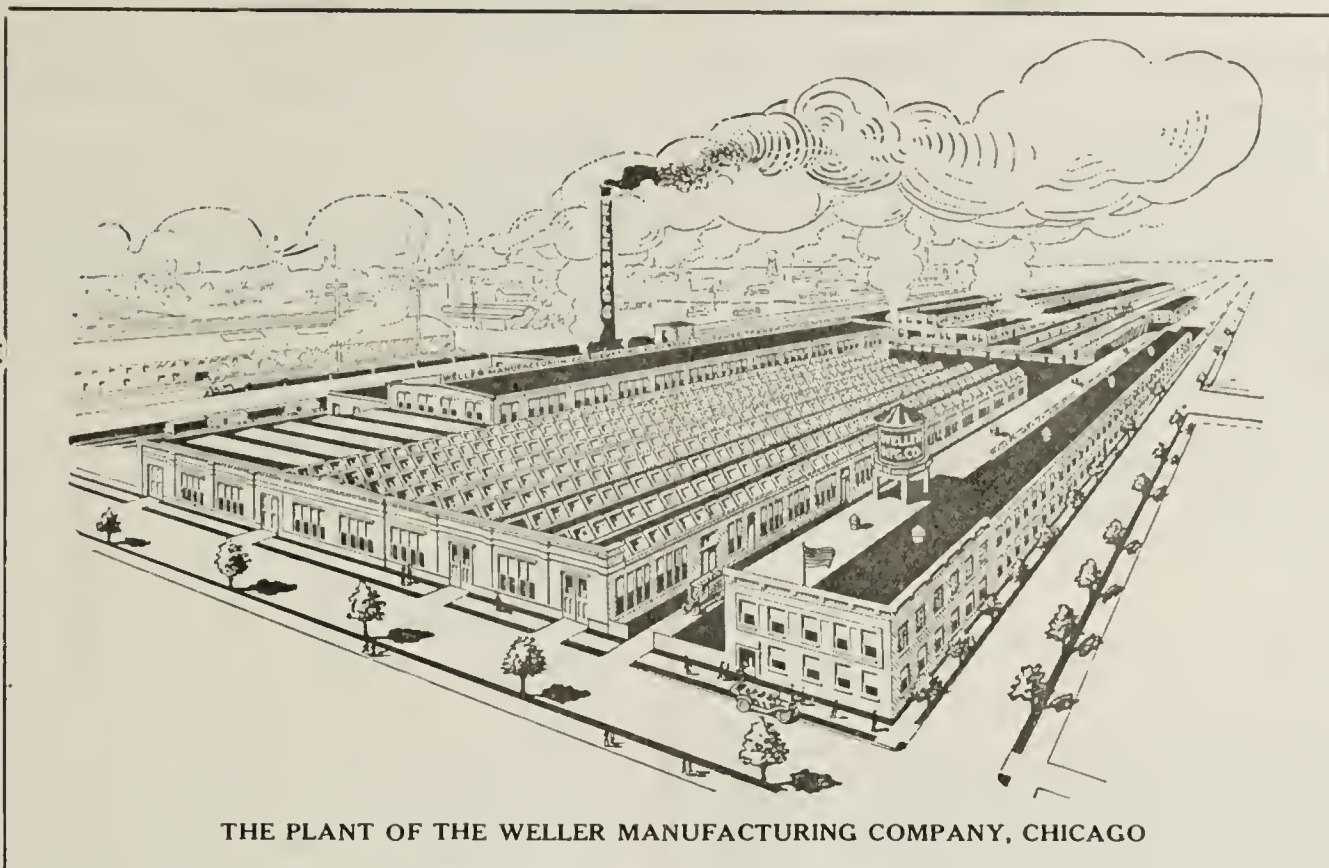


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Large Capacity  
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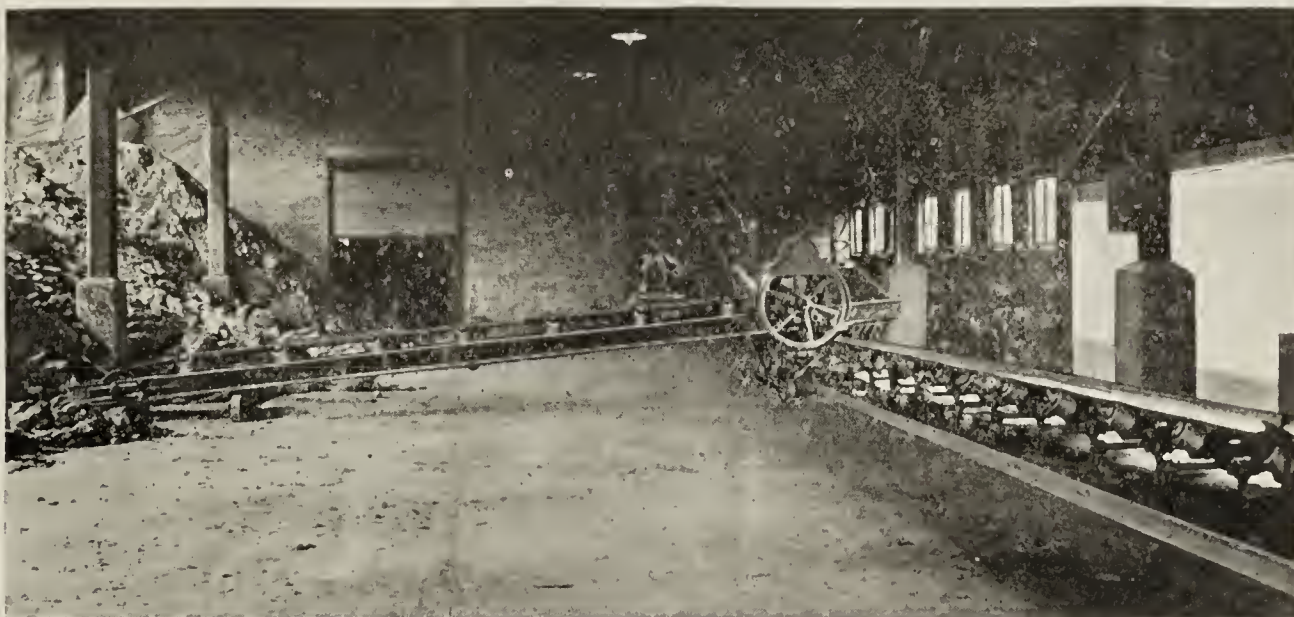


THE PLANT OF THE WELLER MANUFACTURING COMPANY, CHICAGO

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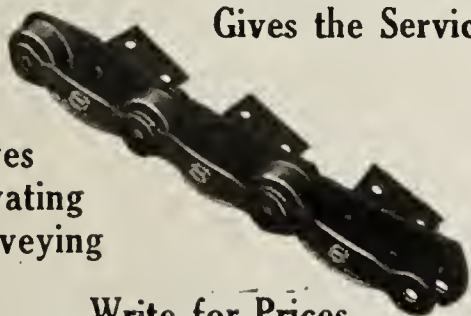
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WELLER MADE STEEL CHAIN  
Gives the Service

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Apron Conveyors, Belt Conveyors, Drag Conveyors,  
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This machine will handle MORE MATERIAL THAN TEN MEN, at a daily cost NOT EXCEEDING NINE DOLLARS for labor, fuel, and oil.

One man operation.

Low first cost and upkeep.

Gasoline or electrically operated.

Digs in any kind of weather.

Will easily pay for itself in a short time.

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### BAY CITY DREDGE WORKS

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BAY CITY, MICH.

Written for THE CLAY-WORKER.

PACIFIC COAST NEWS.



BRICK MANUFACTURERS continue to pile up brick in the various yards throughout the state in preparation for an expected large demand for all classes of building materials. A survey of business conditions in California discloses the fact that building operations are on the increase in almost all communities. This includes generally residences and smaller buildings. Up to the present time it is admitted, however, that not much brick or tile has been actually purchased for immediate use.

Indications point strongly to resumption of building activities on a very large scale this summer in the far West but it is generally conceded among the trade that if these prognostications do not materialize the brick and clay industry will be dealt a hard blow.

Large office buildings and other structures of that nature are in process of erection in San Francisco in numbers hitherto unequaled since the rebuilding of the city after the fire of 1906. The same condition prevails in Los Angeles. Among the largest of the San Francisco buildings under construction are the 21 story Standard Oil building and the 15 story Matson Navigation Co. building.

The first four of the kilns at the California Pottery Co. plant, Merced, will be ready for operation within a few days. That will complete the first unit of what will be a 32-kiln plant there at which everything in pottery, tile and pipe will be made.

A brick burning yard has been opened in Paso Robles by S. Carr who is backed by local capital. He plans according to printed statements to sell brick at such a price that building operations in that vicinity will be greatly stimulated.

Organization of a new concern, the Pope China Co. is announced by William Pope, who was formerly connected with the Pope-Gosser China Co. The new concern is looking for a site at Riverside, it is understood.

A controversy is raging in Riverside whether erection of hollow tile buildings will be permitted within the fire zone there. An ordinance in favor of the hollow tile is pending in the city council and numerous arguments have been made both for and against the measure. While some interests contend that either brick or concrete should be used there are many who say that the city should take a leading part in establishing the durability of hollow tile as a building material. It is pointed out that the United States Government has adopted the hollow tile method of construction for most of its buildings.

City planning is under full swing in San Diego where an ordinance is pending dividing the city into four zones as follows: Business, Semi-Business, Suburban, Residence. A feature of the proposed ordinance is that specific provision is made for adobe construction in the three latter zones, it being felt by City Building Inspector Oscar G. Knecht, who drew the ordinance that this type of construction is peculiarly suited to the needs of the southern city. The ordinance is said to embody many provisions taken from similar codes in effect in cities of a like population.

Buildings of other material than brick, concrete or stone, will be prohibited in the downtown section of Roseburg, Oregon, if an ordinance before the city council passes.

Enlargements are being made in the roofing tile yard of I. F. Angulo, Santa Barbara. Increased demand is announced by Angulo for his product which is known as the old fashioned Mission Tile for roofs.

Litigation involving the Simons Brick Co. and Joe Taylor Simons promises to be drawn out for some time in the courts. The latest move is a request by Mr. Simons who is a nephew of Walter R. Simons, president of the company, for a mandate allowing him to inspect papers in the company's offices. He had previously preferred charges in court against company officers involving the expenditure of certain company funds.

SUNSET.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

# THE MANUFACTURERS EQUIPMENT CO.

## DAYTON, OHIO, U. S. A.



## UNLOADING FOR 3 CENTS PER TON



Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.

**The Columbus Conveyor Co., Columbus, O.**

## Webster's Continuous Down Draft and Continuous Muffle Kilns

Patented in United States, Canada and Great Britain. Marvels of ingenuity and simplicity. Pronounced by experts to be the most perfect and cheapest kilns to construct and the most economical to operate, ever invented or put upon the world's markets.

Equally as economical for burning any class of goods from common bricks to the highest grade ceramics, glazed ware, etc.

**HENRY WEBSTER AND SONS,**

**628 Lexington Avenue, Newport, Ky.**

Kiln specialists and consulting engineers. Forty years of practical experience in clay products industries and continuous kilns.

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## Reduce Labor Costs One-Half

Make One Truck Do the Work of Two. Deliver Your Brick in a Neat Hacked Manner, Without Breaking or Chipping.

REMEMBER—money saved on the delivery of your products means an addition to your profits. Meet the increased freight rates. Be independent of labor.

### HOW?

By the use of the

### FONTAINE DELIVERY SYSTEM

Load one body while the truck is delivering the other. When the body is loaded the truck comes and PICKS IT UP and carries it to its destination. In this manner the truck is never idle. Always on the go.

On labor saving alone it will pay for itself in a short time.

Write TODAY for full information.

No obligation.

**THE AMERICAN TRUCK BODY CO.**

Martinsville, Virginia

Written for THE CLAY-WORKER.

## CLAY AND BUILDING NEWS FROM MILWAUKEE AND WISCONSIN.



PROGRESSIVENESS OF THE clay industry of this section of the country is evidenced by the fact that firms manufacturing and selling clay products for building purposes are taking advantage of the present construction revival in advertising their material at this time. Considerable publicity is being given to the advantages of clay products over other materials.

Using the slogan, "Build Better Buildings With Burnham Brick," the firm of Burnham Bros. Brick Co., located in the Trust Company building, Milwaukee, announces that "Building With Brick has been made cheaper in Milwaukee. During the past few years people have been turning more and more to BRICK for home building. Permanence is the Brick way. Those who have been hesitating about home construction should welcome our present announcement of a \$2.00 per thousand reduction in the price of ordinary brick. All decorative brick has been reduced accordingly.

Greater use of brick in construction in Milwaukee is seen by Charles Burnham, secretary of the Burnham Bros. Brick Co., as the result of an amendment to the building code which will permit the erection of one story or one and one-half story dwellings, not to exceed 1,000 square feet, with an eight-inch solid wall. Previously the ordinance required a twelve-inch wall. This change effects a great saving in the cost of building a small dwelling which is so popular at the present time. There is also a saving in the number of brick, the amount of mortar required and in labor. The change in the code, according to Mr. Burnham, was in recognition of the desirability for a more extensive use of brick for home building.

Another fact in connection with clay products being used in Milwaukee, which long ago was named the "Cream City" from the many cream colored brick buildings, is that the price of common brick has been from \$2 to \$10 lower than in any other city in the country, with the exception of Chicago. Especially in Milwaukee the cost of brick construction is about as low as the cheapest other type. Upkeep costs, however, add to the expense of other materials while brick homes require no painting, the depreciation is light and repairing is reduced to a minimum. Brick construction is fireproof which means a saving in insurance, while easy heating means a saving in fuel. The mass of its walls also provide a dry and cool home in summer.

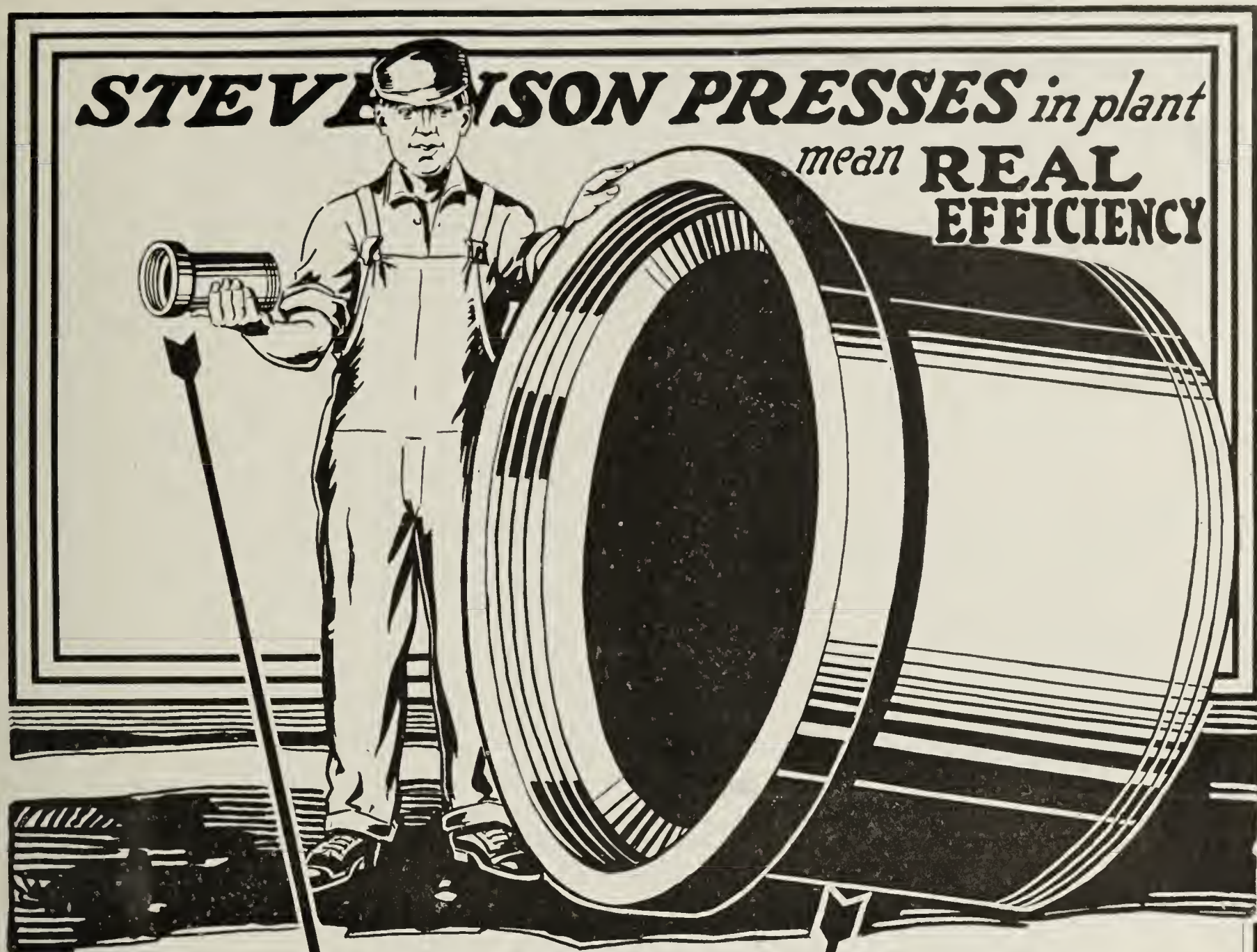
One of the most important business transactions that have been carried out in Menomonie, Wis., for many years involves the consolidation of clay working concerns. The entire plant, good will, stock and appurtenances of the Wisconsin Red Pressed Brick Co. have been sold to the Excelsior Brick Co., which will move the main offices from Minneapolis to Menomonie but continue to operate the plant as the Wisconsin Red Pressed Brick Co., although under the same ownership as the Excelsior Company.

The Wisconsin Company is a local corporation but headquarters were maintained at Minneapolis, Minn. Practically all the stock has been owned by J. W. Kendrick of Chicago and Arthur McMullan of New York, who established the business at Menomonie thirty-six years ago. Mr. Kendrick is a railroad man for many years associated with the Santa Fe System, and Mr. McMullan is a contractor. At the time of the sale the yard was under the management of Eldon Pratt, who succeeded his father, J. D. Pratt, after the latter's death last fall.

The plant of the Wisconsin Company turns out a high-grade quality of common red building brick, frequently referred to as "Menomonie Brick." The capacity of the plant is about 6,000,000 brick a year, or 55,000 a day during the active season. About fifty men are employed and the equipment is operated by electricity. The change of ownership means that the development will be in the hands of local men and under the management of F. J. McLean, J. P. McLean and Oscar Wilson, likewise connected with the Excelsior concern.

A. BADGER.





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## Why are these Beans burned on Top?

Dan O'Dowd was a typical son of the soil and had a craving for the wild country and baked beans. Somehow his devoted wife Mary Anne could never cook beans to suit his taste. As a matter of fact, they were usually burned on top.

Mary Anne's stove suffered from the same ailment as a great many Ceramic Kilns do. The heat was unevenly distributed, comparatively cool at the bottom and excessively hot at the top, due to radiation from many uninsulated surfaces.

Insulation of all the heated surfaces of Mrs. O'Dowd's kitchen stove or the Ceramic Kiln, would guarantee an even temperature throughout. For the Ceramist this would reduce underburning by eliminating cool spots and in addition get more heat out of each unit of fuel by preventing the escape of from 60 to 70% of the heat which ordinarily radiates from the outer surfaces.

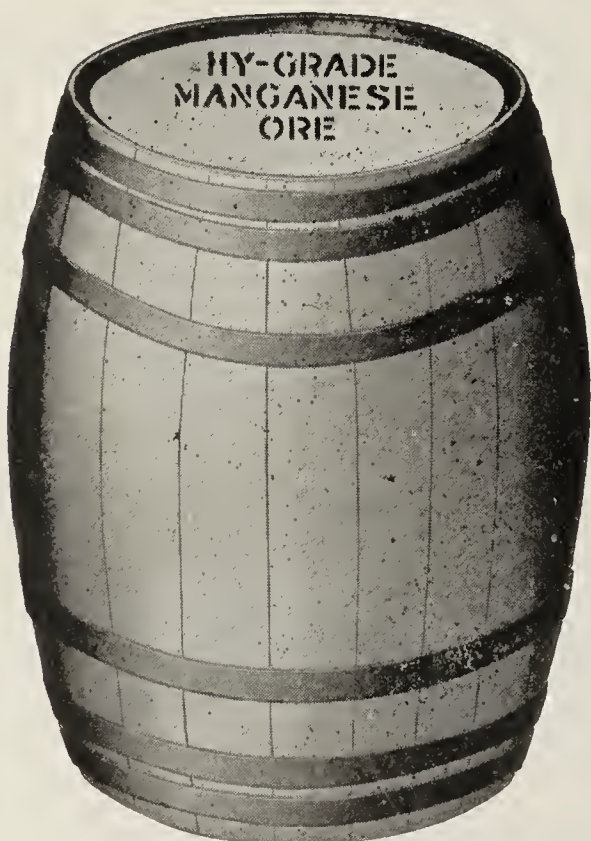


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Written for THE CLAY-WORKER.

SEEN IN NEW JERSEY.

THERE SEEMS TO BE a fair demand for clay products throughout the state, while it is not as active as in normal times, it is increasing, nevertheless. The buying side is taking more interest, and inquiries are flowing into the offices of the contractors and dealers, to be followed to a greater or less extent with orders. The inquiries are mostly in the line of the higher class of face brick, in shades and tones suitable for residences. The only drawback to be noticed in the high freight rates. There is a fair supply of equipment available for shipment, when it is necessary, while on the other hand where shipment can be made by truck, this is the method of transportation used.

Building operations are on the increase, while there may not be an over abundance of work, the amount of contracts let are moving toward the normal mark. In this part of the industry there, too, is a drawback. It is on the part of the workers. There is a strong leaning toward reducing of wages. The attitude of the workers is not necessarily known, but can be reasonably implied. Today one of the handicaps of construction lies in the feeling of the uncertainty of the present wage scale.

Prices have not varied to any great extent during the past month. The important consuming and distributing centers report the figures remaining in the neighborhood of \$25.00. Other localities show a dollar or two more and in some cases a shade less, but all are unable to get very far from the \$25.00 mark. Newark is quoting \$25.00, Paterson is asking \$22.00. This is about the range in the northern section and the indications are that these figures will remain. In the southern section the prices vary with the demand, and the demand is not at all beyond the supply. The prices quoted in Camden are close to the \$25.00 mark. While this city has no particular demand beyond the regular requirements, there is a strong feeling of a quick start as soon as the Quaker City can get beyond the point of "marking time." There is a strong tendency on the part of producers to reduce wages to help cut production costs, and this is also the feeling all along the line.

The state as a whole is in a very undecided mood. Taking Newark as a barometer of the situation, and it is generally understood this can be done, the trend of the situation during the latter end of March was more for the residence class than for the industrial side. These were mostly for homes for one or two families. The industrial part has shown a decline, and to be frank, there has been no real project launched for some time. While there is an inclination for a revival of this work.

The Adamtex Brick Co., 171 Madison Ave., New York City, is planning to start a new plant in the vicinity of Trenton. They are to produce a high grade of brick. Mr. Louis F. Ducker is secretary. **BURTON.**

### AFGHAN VERTICAL RUFFS.

We are indebted to the Crawfordsville (Ind.) Shale Brick Co. for a very attractive booklet telling of the merits of building brick in general and the Afghan Vertical Ruffs in particular. It is beautifully illustrated, with a series of photogravures of brick homes that have been built of Afghan Vertical Ruffs which combine the three chief essentials, beauty, durability and economy. The modern brick structure makes possible a blending of colors and tints that add immensely to architectural effects. The Afghan Vertical Ruffs blend the warm red and brown tones in a manner that is most pleasing. "A building faced with this exceptional brick will retain its original charm forever." The prospective home builder should by all means get a copy of this book in which will be found some interesting data on the relative cost of brick structures and those built of other materials. Copy may be had for the asking; address The Crawfordsville Shale Brick Co., Crawfordsville, Ind.



6.00  
2h  
Ceramics

MAY, 1921

# THE CLAY-WORKER



Jimmy

Bill

Joe

Terra Cotta Grotesques Made by the American Terra Cotta and Ceramic Co.  
See Page 556.

Published Monthly by  
**T.A. RANDALL & CO.**  
INDIANAPOLIS, IND.  
OFFICIAL ORGAN OF THE N.B.M.A.

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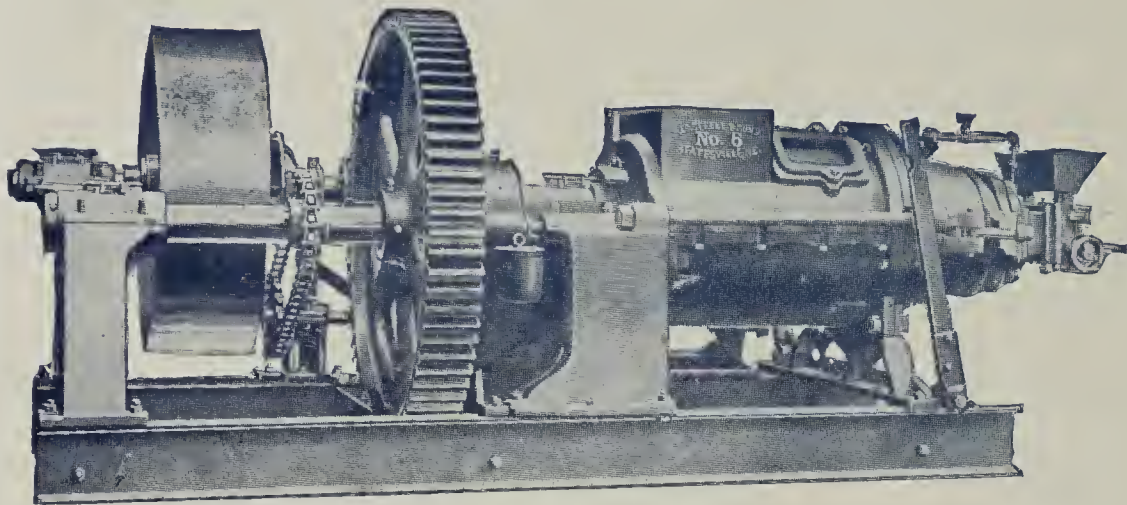
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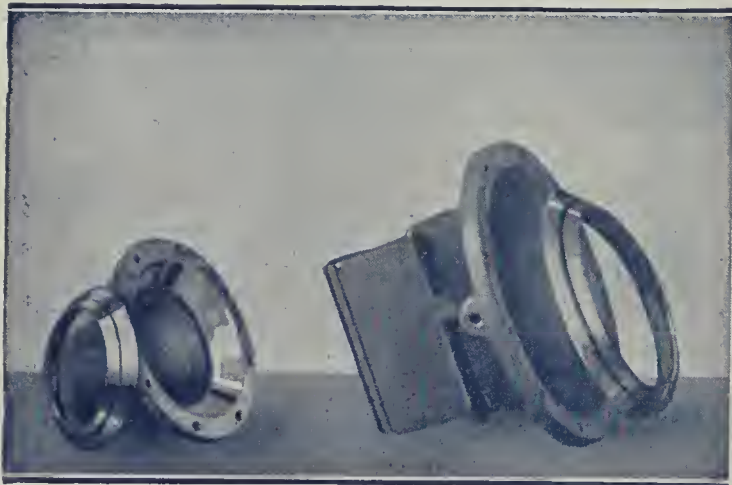
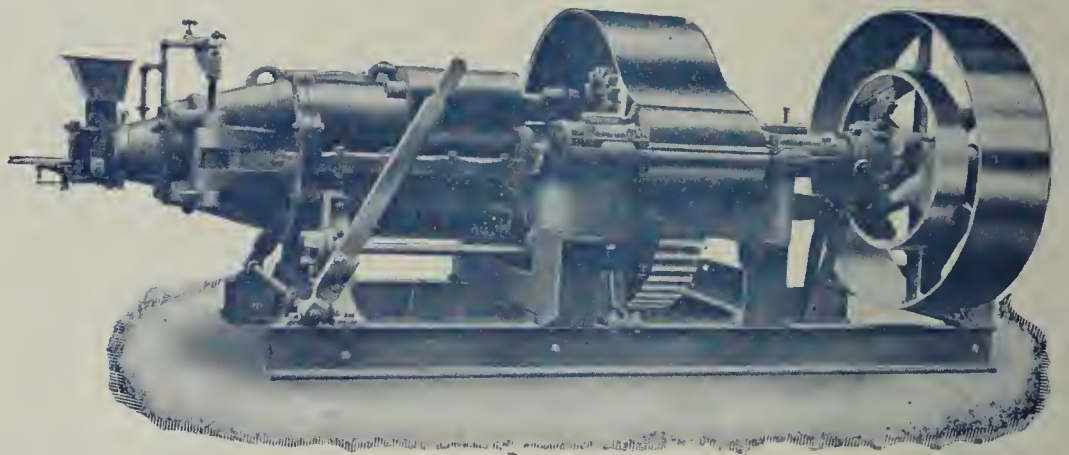
# Direct Geared Machinery for Brick Plants

We do not claim to be the originators of the Single Geared Machine, the first brick machine ever built being of that type. We have, however, so proportioned the gears and pulleys as to get the best results. Some of the advantages are: Saving in Power, Quiet Operation, Greatly Reduced Repair Costs, Operation at High Speed without Damage. All very essential during these times. If weary of the vibration, hammering and breakage of an old compound-gear machine you will not regret having investigated the Steele Direct Geared Machines. We present cuts of a few machines below.

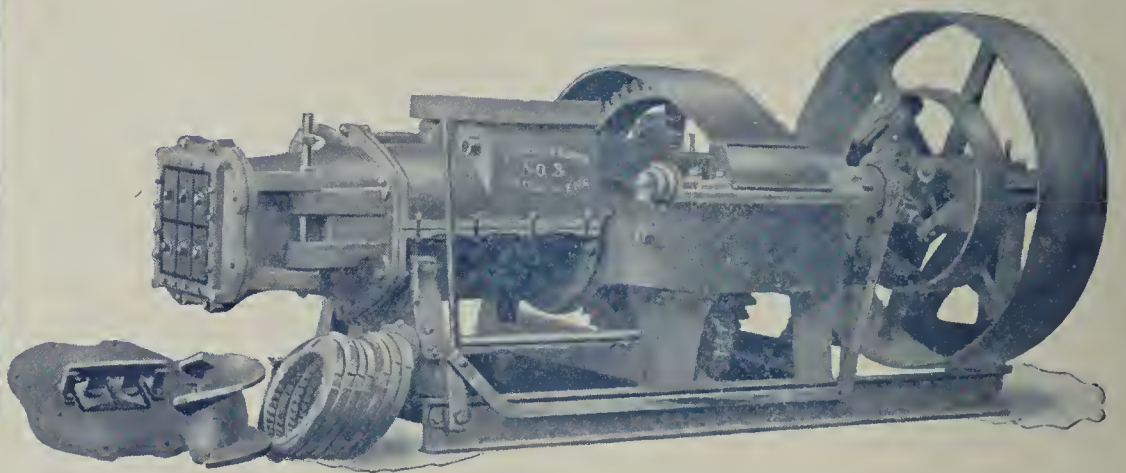


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Capacity, 15,000 per Hour.  
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Mention THE CLAY-WORKER.



# THE CLAY-WORKER

THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 75

INDIANAPOLIS, MAY, 1921.

No. 6

## TERRA COTTA: Its Wonderful Architectural Possibilities Being Demonstrated in Indianapolis, Where Many New Buildings Are Faced and Decorated With it in Combination With Brick, to the Great Artistic Advantage of Both Materials, as Evidenced by the Accompanying Illustrations. ❀ ❀ ❀ ❀

EVERY large city in this country is undergoing a change in architectural style, particularly in regards to its mercantile buildings and skyscrapers and apartments, due to the phenomenal developments in brick and terra cotta.

Brick and terra cotta, the two leading structural materials, now monopolize the field against all comers, and whether used alone or in combinations seem to furnish everything that can be desired.

Terra cotta has been used for the past decade for decorative purposes in connection with large buildings, but it is not until the last seven or eight years that it has come into such universal use for facing purposes. The steady development of the art, the high-grade workmanship displayed in modeling and comparatively small cost, everything being considered, has pressed it to the front in an unusual manner. One big advantage terra cotta has over other materials is the fact that in manufacturing centers, where smoke smudges up the face of the buildings, terra cotta can be

washed like a dinner plate and in just as quick a time literally speaking.

The development of steel frames for high buildings has been closely followed by the adaptation of terra cotta for

finishing them. The lightness of terra cotta, its durability and the economy with which it can be maintained when once in place had much in its favor and it is coming to be recognized by architects as the proper material to specify in much work in large cities, where smoke and grime is more or less prevalent. It can be matched with granite or any other stone, furnishing a building which cannot be detected from a real stone structure.

Properly vitrified terra cotta, according to those expert in its manufacture, will withstand the elements indefinitely. Its manufacture was known to the ancients, centuries ago and in some of the world famous museums today can be found specimens of statuary made long before the Christian era, and in as perfect a condition today as they were when



Terra Cotta Grotesque Ornamenting Entrance to Branch Library No. 3, Indianapolis.



modeled. Some have lain under water for hundreds of years off the north coast of Africa, but were recently recovered and carefully examined. They were found to be in perfect condition.

American architects are learning more and more the methods to be followed in specifying and using terra cotta. The manufacturer now allows architects the widest range in planning terra cotta buildings, providing they adhere to good architectural and engineering practices. Architects are permitted to send in their detail drawings, after which they are carefully adapted by experts in the employ of the big terra cotta companies. Blocks are made to fit every space, careful measurements being essential, so that wide cracks will not destroy the symmetry of the design. These blocks are all

may be adhered to without difficulty. The colors never fade and they can be brought to their original brightness and beauty by simply cleaning off the original surface.

This wonderful material, excellent specimens of which were made 2,000 and 3,000 B. C., and which are today preserved in their original state, stands in a class by itself for some purposes. It is an excellent material with which to trim brick buildings, and architects, with artistic tendencies, are now employing it extensively in working out attractive color and form schemes. Face brick walls, with heavy terra cotta copings are popular. Another form is to make the first two or three stories and the top three of a building of terra cotta, with the intervening space built-up with brick.

Terra cotta is coming to be used largely for interior



Detail of Hampton Court Apartment, Indianapolis, Ind. The Terra Cotta Was Furnished by the Indianapolis Terra Cotta Co.

carefully numbered and these numbers placed on the plans. The terra cotta is then shipped to its destination, where it is sorted out by an expert setter, who indicates where each piece is to go on the building under construction. In case a piece is broken it can be recorded again at the factory and a place left to receive it in the general design on the building.

The ease with which terra cotta can be moulded makes it especially valuable in buildings where ornateness may be desirable. Anything which can be modeled in clay can be reproduced in terra cotta, with nearly the same faithfulness of detail. Human figures, the bodies of birds or animals can all be produced at but a small cost of carving them in stone. Another benefit is that the terra cotta can be made any color, by adapting the glaze put on the block. Thus any color scheme, which the architect may desire to work out

purposes as well, especially where sanitary surfaces are required. For hallways, lavatories, basements, interior courts, elevator shafts, kitchens and many other interior purposes it can now be profitably employed.

The lightness, durability, economy of maintenance, and the practicability of construction of terra cotta is making it a prime favorite as compared to granite, marble, sandstone or concrete. The cities of the future will be constructed of this clean, sanitary material, used in combination with brick and tile.

In Indianapolis terra cotta is coming to the front with rapid strides, due in no small measure to the fact that there is located there within the city limits The Indianapolis Terra Cotta Company's plant, a branch of the American Terra Cotta and Ceramic Company of Chicago.



In one of the recent issues of Common Clay a most interesting booklet, published by the American Terra Cotta and Ceramic Company, there appeared the following article pertaining to their Indianapolis branch:

"Terra cotta was made in Indianapolis many years before it was known as an architectural building material in the Middle West. In the year 1867, Mr. J. N. Glover of Louisville, Ky., began the manufacture of terra cotta on a very small

1869 moved their works to Chicago. Not long after this time Stilz, Joiner & Company started a terra cotta business in Indianapolis. This organization was not preeminently successful and in 1883 the Indianapolis Terra Cotta Company was formed and the plant located at Brightwood a few miles from Indianapolis. After many ups and downs Mr. Benjamin D. Walcott reorganized the company and continued to operate it until his death.



Entrance to Maryden Apartment, Indianapolis, Ind. Note the Combined Beauty of Brick and Terra Cotta Trim.

scale. His method was unique. He first obtained a cast iron model, made a model of it in plaster of paris and then pressed his clay into this mould. It had no Ceramic finish, it was painted on the outside and pitched inside, and was sold as a clay imitation of an iron imitation of cut stone. Shortly after starting the works he moved to Indianapolis in order to be near the clay deposits of the Brazil Coal Mine Regions. In 1868 he sold out to Hovey & Nichols, who in

In April, 1918, Mr. William D. Gates bought the entire capital stock and leased the plant to The American Terra Cotta Company, which now operates it.

Under the old regime the company did excellent work throughout the country. They were content, however, with the old-fashioned standard finishes and never attempted any of the ceramic glazes, which are so familiar to the users of terra cotta. Under the new administration the Indianapolis



plant is equipped to manufacture all of the modern finishes and they have been very successful in what, to them was a new line."

The illustrations shown herewith are a few examples of many jobs furnished by the company in Indianapolis.

Hampton Court Apartments, a detail of which is illustrated on page 554, is an exceedingly interesting structure from the point of view of terra cotta trim. It is only another proof of the truth of the statement that "Beauty is not a question of mere shapes, but is the evidence of mind acting properly on material." A close study of the details of this charming Tudor structure will demonstrate that terra cotta is frankly jointed as a clay material, that no attempt has been made to imitate the uncompromising rigidity of stone; that

a good book, is shown to better advantage in the illustration on the first reading page of this issue.

Speaking of grotesques, W. D. Gates, in *Common Clay*, had the following to say regarding their new creations as shown on our cover page:

"Technically, we suppose they are grotesques. We would rather call them whimsicalities; Jimmy, on the right, Bill in the center, and Joe on the left. If Clarence Briggs saw them he would run them in his series "Wonder what they are thinking about?" We wonder, not what they are thinking about, but what Mr. Schneider, our modeller, was thinking about, when his deft and skillful fingers were manipulating the clay. Whimsical his mood must have been, and whimsical, indeed, was the result. There are times when we feel



Branch Library, Indianapolis, Built of Brick with Terra Cotta Trim, a Combination Making a Most Attractive Structure.

the architect has expressed himself logically and beautifully in clay products throughout the building.

The view of the entrance to Maryden Apartments shows the pleasing harmony in the use of terra cotta trim and high-grade face brick. The beauty in both is emphasized in no uncertain manner, because one off-sets and brings out the high quality of the other. The materials are kindred clay products and the beauty of one naturally enhances the beauty in the other. A great artist once said, "No beautiful thing was the result of accident, were it not planned to be beautiful it could not be so."

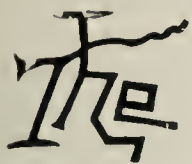
The view of the Indianapolis Public Library, Branch No. 3, is another fine example of the beauty contained in the combined use of terra cotta and brick. The grotesque on either side of the entrance, a monk enjoying the reading of

as Jimmy looks, with the weight of the world on our shoulders, and no relief in sight. Then there are moods in which we turn to Bill. Bill says nothing, but he looks at us out of the corner of his eye and we remember to look wise, be alert and silent. Joe, too, helps. There are times when he tells us to sit tight, be tranquil, and thereby acquire merit. In all they form a great trio, always on the job, and we are very fond of them.

"It has always been more or less a puzzle to us why grotesques appeal as they do. When we ask ourselves why, there is no answer from the four winds of heaven. They arouse in us an interest akin to that which surrounds the Sphinx; we can sit in their presence and muse, just as we do before the smile of Mona Lisa. They are great little incentives to musing, so when we are busier than usual we find it a good policy to take them off the desk."



## THE BRICKMAKING INDUSTRY IN RURAL IRELAND.



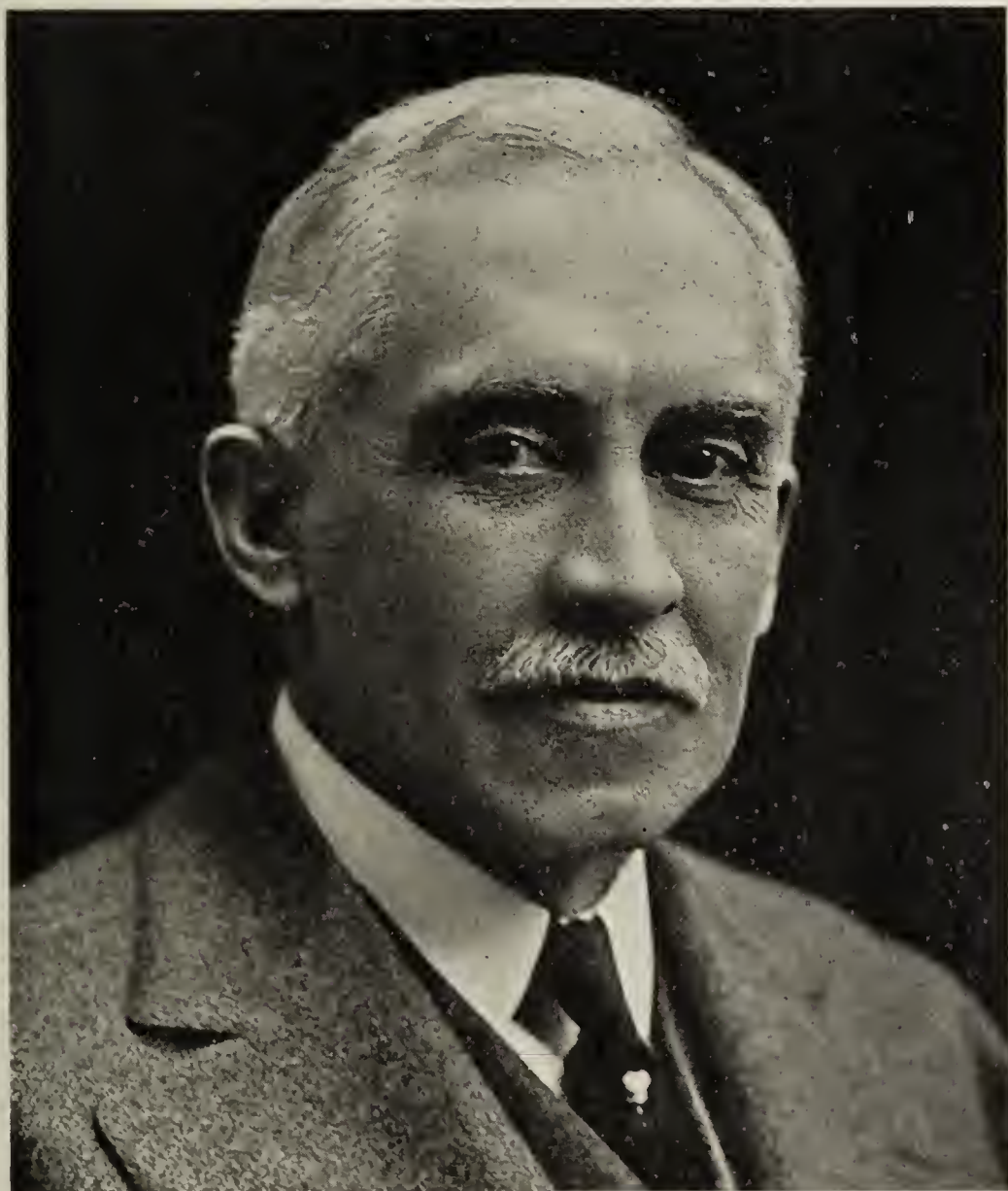
INTRODUCTION OF MACHINERY, and labor-saving devices of all sorts, have been responsible for destroying many rural industries on which the prosperity of the country depended in the days of our grandfathers. There is only one

industry which has survived the general demolition and that is the manufacture of bricks for building purposes, which in those districts where clay is plentiful and of good quality is carried out on the same lines, and with exactly the same appliances as pertained to its manufacture probably when it was introduced.

That it has survived, and that it is able to hold its own

younger members of the family who, very often barefoot, walk up and down, across, and at every conceivable angle through the mass of clay until they have reduced it to the consistency of putty. It is now ready for making or moulding.

The moulding of manufacture proper provides work for three men and two boys. One man is engaged shoveling the clay out of the pit where it has been prepared. The others, in the jargon of the industry, are styled "wheeler" the "upstriker" the "moulder" and the "off-bearer." All the grass having been cleared off a space, say 15 to 20 perches square, the operation of moulding the brick begins. The wheeler fills his barrel, takes it to the moulding table, and dumps it. The "upstriker" takes up the clay in his hands and throws it on the table. The "moulder" who is provided with two moulds



### A Tribute to George H. Lacey.



Mr George H. Lacey joined the Indianapolis Terra Cotta Company, January 13, 1896, and has recently completed his twenty-fifth year of continuous service with that company. He is a man of very wide experience in the terra cotta business. Born in England, educated at the City of London College, articulated to an architect and surveyor in the city of London and continuing with that profession for twelve years, he then came to America. He has worked with Stephens, Armstrong & Conkling at Philadelphia; Perth Amboy Company and twenty-five years at Indianapolis.

Mr. Lacey's career is only one more example of the loyalty and faithfulness of terra cotta men towards their material. It is such men who have made the business what it is and we are very glad that in acquiring the Indianapolis plant we were fortunate enough to acquire the services of so good and true a man as its general manager.—W. D. Gates in Common Clay.

with machine-made bricks in the market is due to the fact that the raw material is abundant, and costs the manufacturer practically nothing beyond the labor consequent upon its preparation, and that the final process of manufacture—the hardening, or as it is locally termed the burning process—is carried out with fuel in the shape of turf made by the manufacturer and his family.

For those who follow this rural occupation are small farmers, with families who provide all the labor themselves, never seeking outside help.

The first stage of manufacture is the preparation of clay. The clay, after being dug out of the bank, is covered with water and left thus for three or four days, until it has become thoroughly softened. The water is then drained off, and the clay kneaded. This work is performed generally by the

presses the clay into one of these, which is then taken by the "off-bearer" and laid in position on the ground, the moulder meanwhile filling the second one, which in its turn, is borne away, and so the manufacture goes on.

The bricks are laid in rows, when thoroughly dry they are lifted and put into stacks, where they remain until they are hacked in the kiln for burning.

When burned the bricks are sold to a local contractor and bring in a tidy sum. A kiln consists of about 30,000 bricks which sell readily from about £4 to £6 per thousand.

Where clay is abundant and of the right, quality, this is a very profitable industry. It has been heard of that some farmers can make £100 clear profit in one year. The work is laborious, but those who are engaged in it are thoroughly accustomed to it, having started it early in life, and to such it comes quite easy.

M. M.



## THE THICKNESS OF BRICK WALLS FOR SMALL RESIDENCE BUILDINGS.\*

William Carver, Assistant Secretary Common Brick Mfrs.' Association, Cleveland, Ohio.

THE BUILDING INDUSTRY comprises not only those directly engaged in the design and erection of buildings and the furnishing of materials, but in a broader sense it includes all those who exert an influence upon it and are necessary for its existence.

The building official occupies an important place in this industry. His work is of vastly more importance and upon his shoulders is placed a greater responsibility than upon almost any other public official. Until all mankind improves in morals, he will have the task of safeguarding the public against those who, either from ignorance or for profit, would construct buildings that would be unsafe structurally or unsafe from the point of fire resistance or buildings that would be unsanitary and unhealthful. Upon you rests the responsibility of safeguarding the lives and health of the vast majority of the citizens of the United States. You may well be proud of the vital importance of the office you hold. The number of accidents due to unsafe buildings is the greatest compliment to the thoroughness with which you perform your difficult tasks.

The vast majority of building codes are good codes and make for good, safe construction. There are many people, however, who are continually trying to break down their good provisions and get by with questionable methods or material. The average building commissioner is pestered to death by such people. Most often they rely upon their eloquence but the building commissioner is astute enough to know that the earnestness of a salesman or of a dishonest contractor has no influence upon the strains and stresses in a building. It does not lessen the heat of a burning building or stop the wind and weather. Every material, every method of doing work, must stand on its own merits alone when in the building, uninfluenced by anybody's special reasons for placing it there. When a new material or a new method demands admission to the code, those promoting it should be able to show you why, by spreading before you the results of tests made by a reliable, disinterested authority, such as the Bureau of Standards or the Underwriters' Laboratory. There is no argument about the jaws of a testing machine or the interior of a test furnace. The average building official is from Missouri. "Show me" is his middle name. He is not a bit credulous and does not gamble with the safety of the public.

That does not mean, of course, that building codes are infallible, for here and there we find some codes that are too lax, and should be made more stringent, and here and there are codes that err on the other side, their enforcement entailing considerable waste of good material and needless expense to the owner and it is with the latter kind of code with which we are now concerned.

Brick is one of the oldest of the standard building materials. It is used all over the civilized world and some portions of the world that are not even civilized. It is the product of the experience of centuries. Hardly any other material has been so thoroughly tested by universal usage and performance under every conceivable condition as brick. In presenting the case of the eight-inch wall, I simply urge recognition of facts that are widely known.

Brick construction is good, sound, honest construction: It is common knowledge that brick is probably the most permanent form of construction known. When built into the walls of a home it provides the owner with a structure that costs him little for upkeep and that depreciates slowly. Deprecia-

tion on a well-built brick house amounts to only 5% during the first ten years after it is built. It will provide shelter not only for the lifetime of the man who builds it, but for the lifetime of several generations after him.

In a broader sense, it is to the advantage of the community to have homes constructed of brick. You are quite familiar with one reason for this, for in the fire zones of your cities only homes with fire safe walls are allowed. Brick reduces the damage of fire spreading from one house to another and so makes cities safer. Because of the permanent character of brick, a group of homes with brick walls does not get the run down appearance of a group of less permanent homes. It is impossible to say whether a brick house is five or fifty years old. Brick homes thus stabilize real estate values.

Every building official here will, I am sure, agree that it should be made easy for every man who builds a home to take advantage, if he cares to, of the qualities of brick. Brick is a rich man's material and it is essentially a poor man's material also. The rich man wants a brick home because of its beauty and air of distinction and permanence. The poor man wants a brick home because it saves him a lot of money. The poor man cannot afford to have his house continually tinkered with; he cannot afford to be continually painting its walls and repairing them or to take an annual loss of 3% per year on his property through depreciation.

And yet some building codes make it hard for the little man to have a brick home. I do not believe they do this intentionally, but that is their practical effect. Some of them say to him, "In your district you can build a home of frame construction using 2"x4" studs, but if you build a brick you must pay a premium by using more material than is necessary." Such building codes tend to undo the educational work now being carried on by the brick associations, the object of which is to impress on the building public that economy in upkeep should belong to a man's home. You can sell a man the idea of having a brick home, but when he gets comparative figures, one set based on cheap construction and another based on good brick construction, plus 50%, which the code says he must have to make it extra good, there is and must be too wide a difference in the prices and in most cases he builds the cheaper house, to his loss and against his will.

A thickness of 8" for the brick walls of a home, above the basement, is ample, both for the first and second stories. This can be proved by endless examples in practice and by theory.

We are now in process of making an investigation as to code requirements for dwelling house walls. Some of the following data is taken from building codes and some from returns received direct from building officials. Our information is not yet complete and is subject to addition and correction as further returns come in and show that codes have been amended. Thirty-three cities allow an eight inch wall for both stories of a two-story house. These are: Baltimore, Birmingham, Boston, Cambridge, Columbus, Cleveland, Detroit, Minneapolis, New York City, Philadelphia, Seattle, Spokane, Pittsburgh, Tacoma, Washington, D. C., Wilmington, Richmond, Syracuse, Tampa, Worcester, New Haven, Manchester, Rochester, Toledo, Duluth, Hartford, Rock Island, Lynn, Cincinnati, Trenton and Portland, and recently Buffalo and Milwaukee have amended their ordinances to allow the eight inch wall, and Norfolk, Roanoke, and many other cities are now considering the matter. That is a most imposing list and many thousands of homes have been constructed in these cities with eight inch walls and many hundreds of thousands of people find them comfortable and satisfactory. You never heard of any city which allowed the eight inch wall changing back to the twelve inch wall. It would not be possible to do so, public sentiment would be so strong against the change.

Taking the other extreme, we find that some cities require

\*Paper read before the Building Official Conference, held at Cleveland, Ohio, Friday, April 29th.



the first story wall of a dwelling house to be 16 inches thick, and many cities require a twelve inch wall at the first story and eight above. In the light of experience, a building code which insists on these things insists on a waste of material and money. Let us consider the case where a twelve inch wall at the first story and eight above is required. An exterior wall must support the floors above and form an effective barrier against the elements. The fact that eight inch walls are allowed for the second story or for bungalow walls, indicates that such walls are considered, in those cities, satisfactory for excluding the elements. The question of strength, therefore, remains. Disregarding the experience of the cities mentioned, which would constitute a satisfactory reply in itself, let us consider the actual strength of brickwork. The blue prints passed around yesterday showed that one complete house can rest with safety on two short sections of Ideal wall, which is probably not as strong as a solid wall. You noticed, also, that the test wall showed no signs of distress. We stopped the loading only when the box would hold no more sand. I frankly believe we could pile up several such boxes on that wall before it would show any signs of failure.

The U. S. Bureau of Standards is now engaged in making crushing tests on solid brick walls and on Ideal walls, using their huge ten million pound testing machine at Pittsburgh. That is the very first time, to my knowledge, that a brick wall has been placed under a compression test by a disinterested reliable authority. The strength of brickwork is so great that such tests have heretofore been confined to brick piers, the Pittsburgh machine being the only machine in existence strong enough to crush a panel of wall eight inches thick, one story high and long enough to get true wall action.

The Bureau of Standards made a series of tests on large brick piers about two years ago, some of the piers being constructed of what they termed "Soft burned or poorest product marketed." The average of three tests on piers of this material 30"x30"x10 ft. high, laid 1-3 lime mortar—poorest brick and poorest mortar—showed the total resistance to crushing at failure was 12.3 tons per square foot. Eleven similar piers 30"x30"x10 ft. high of medium brick,—the ordinary brick supplied to a job—laid in cement lime mortar, failed at an average load of 90 tons per square foot.

Remembering that the average story in a small residence is about eight feet high, as against a ten-foot height for the test piers, and as only well burned brick are used for exterior work, we may reasonably assume, until the tests under way are completed, that the ultimate strength of such brickwork, laid in cement-lime mortar,—the mortar ordinarily used—will average in the neighborhood of 90 tons per square foot for an eight inch wall, or 60 tons per running foot. The greatest load placed upon it at the first floor line of a residence is not more than about a ton and a quarter, giving a factor of safety of over 45 for the eight inch wall. Surely that is conservative enough for anybody.

Experience and theory, therefore, amply prove the eight inch wall to be weather resistive and to possess much more strength than the loads of a residence can ever develop.

The Bureau of Standards is now making a series of fire tests on bricks walls, 8" and 12" solid walls and 8" and 12" Ideal walls. The tests on the solid walls have been completed and the panels of Ideal walls have been built and are now ready for testing.

There can be little doubt, as a result of the remarkable way brick walls will come through these tests that the Bureau of Standards will recognize the eight inch as well as the twelve inch brick wall as fire-resistive and they ought to pin a medal on it in addition.

For further proof, if proof be needed, that the eight inch wall is satisfactory for two-story residences, I will quote a

recent statement by Mr. D. Knickerbacker Boyd, who during the war acted as Chief of the Materials Information Section of the U. S. Housing Corporation. Mr. Boyd said:

"Of the thousands of houses built by the U. S. Housing Corporation and the Housing Division of the Emergency Fleet Corporation and the many thousands more for which drawings were made, the eight inch wall was the invariable rule. This thickness of wall was adopted after thorough investigation and most mature consideration, and was even made to apply in several instances in localities where unfortunately at the time the minimum requirements were for thirteen inch walls. The building authorities in these localities in most cases voluntarily conceded to the requirement of the Government that these houses should and could be built of this eight inch thickness—in spite of any prevailing provision to the contrary."

That is Mr. Boyd's testimony.

There is another important consideration; that the extra space taken up by the twelve inch thickness reduces the area of the rooms in the house. In the case of the house already mentioned, twenty by thirty feet, approximately thirty-one square feet of area is thus lost on each story, an area equal to a small bathroom or several good closets.

I believe I have shown you convincing reasons why the eight inch brick wall should be allowed for dwelling house construction. It is enormously strong; it is unquestionably fire-safe; it now forms warm and dry walls for the homes of multitudes of people and gives a man of small or average means free choice of his building material, without taxing his preference for good construction. If your code does not permit of its use, I suggest you use your influence to have it amended so that both inside and outside your fire zone the eight inch wall will be allowed.

The Common Brick Manufacturers' Association has developed a new type of wall, the Ideal wall, a test structure of which you saw yesterday. We firmly believe that this wall is going to revolutionize residence construction in America. This wall is absolutely the lowest cost permanent wall it is possible to build. A house of Ideal construction costs, in fact, about the same or less than frame. I am sure you have satisfied yourselves that it will easily bear all the load that can be placed upon it in an ordinary residence. You have observed the principle of its construction, that of laying all or part of the bricks on their edge instead of flat.

Ideal wall construction now provides the man of small or moderate means with a permanent home at about the same or less initial cost than a house of non-permanent material. We feel that the development of this wall is a boon, not only to the owner, but to the community at large. It removes what has been the greatest handicap to a more general use of permanent construction, its apparent increased cost. Good construction can now compete in price even in districts where building codes do not operate. It is our firm belief that it will be a vital factor in transforming frame America into an America of bricks and mortar, to the great benefit of every man, woman and child in the country.

The eight inch Ideal all-rolok wall saves 25% of the brick, one-half the mortar and considerable labor over the solid brick wall, and saves the furring required to safely insulate the inside of the wall in every other type of masonry construction which has so far come to my attention.

You observed yesterday that in the Ideal wall is accomplished, with ordinary brick, what has long been striven for by the use of odd shapes and large, awkward units,—a break in the mortar joint through the wall. Moisture can be conducted through a brick wall by one route only,—through the mortar joint. There is no danger, even in districts with a

(Continued on page 602)



## BUILDING COMMISSIONERS HOLD ANNUAL CONFERENCE.

An Interesting Program, Visits to the Plants of Hollow Tile Manufacturers, and The Independent Brick Company of Cleveland Where There Was a Demonstration of the Strength of Hollow Brick Wall.



AN EVENT OF GREAT interest to building commissioners and engineers and inspectors from many of the principal cities of the nation occurred at Cleveland, Ohio, April 27 to 29, when the Seventh Annual Convention of the Building Officials' Conference was held at Hotel Statler. As is the custom of that organization, there was a joint meeting with the Hollow Tile Manufacturers' Association, and naturally, hollow tile construction was one of the leading subjects considered. There were a number of interesting papers presented, among them one by Mr. Charles C. Crockatt, of Chicago, on "Hollow Building Tile and Its Relation to Building Laws and the Administration of Those Laws," which is reprinted in full on another page of this issue of The Clay-Worker.

At noon time the delegates were the guests of the Cleveland Builders' Exchange. A substantial lunch was served, after which there was a most interesting talk fest, the delegates as their names were called in Rotary fashion, told of the building conditions in their several localities. Summed up, it was not a very cheerful narration, for building generally is

quite limited. Nevertheless, it was the consensus of opinion that in the very near future, there would be an end of labor disputes and talk of lower prices when a real building boom would set in in almost every city and hamlet in the land.

### Demonstration of the Strength of the Brick Hollow Wall.

In the afternoon the delegates were autoed to the plants of the hollow tile manufacturers in the outskirts of the city, where they were initiated into the art of tile making, and to the plant of the Independent Brick Company where there was an exposition or demonstration of the strength of the brick hollow wall, provided by the Common Brick Manufacturers' Association. With characteristic thoroughness, Secretary Stoddard had erected a trial structure, the accompanying photograph of which gives a better idea than any verbal description. The platform supported by an eight-inch wall was loaded with sand, having a total weight of eighty-two tons, which made an average of 6,750 pounds per running foot. The fact that the wall was so loaded within nine days of its completion demonstrated graphically that the strength of the brick hollow wall is far beyond any rational factor of safety. The visitors without exception conceded the test was a severe one and demonstrated that the strength of the brick hollow wall was adequate for any ordinary one or two-story structure.

Thursday morning the program was resumed, reports of officers were received and approved and the election of officers resulted in the unanimous re-election of Rudolph P. Miller, of New York City, as chairman; Fred P. Lumis, of Springfield, Mass., secretary-treasurer, and the other executives, each and all of whom was accorded a vote of thanks for faithful service the past year.



### REMARKABLE TEST OF THE BRICK HOLLOW WALL

Test Load Per Foot Run  
Wall Eight Inches Thick,  
3.83 Tons.

Load Per Foot Run  
First Floor Level of  
Ordinary Two-Story House,  
1.01 Tons.

Factor of Safety  
Over Test Load—3.

Test Load Equal in  
Weight to Complete  
Residence.



In the afternoon several papers were presented, among them one on "The Thickness of Brick Walls for Small Residence Buildings," by William Carver, of Cleveland, assistant secretary of the Common Brick Manufacturers' Association. It contains much interesting data, as the reader will see by turning to page 558, on which it is given in full.

#### Side Trip to Canton.

Friday morning the delegates were taken to Canton, Ohio, as the guests of the National Pressed Steel Company of Massillon. Special coaches were provided and on arrival at Canton the party was met by the local committee of the Massillon Chamber of Commerce. The visitors were taken in automobiles to points of interest in Canton, chief of which was the McKinley monument, a magnificent memorial which overlooks the city. The real purpose of the excursion was to visit and inspect buildings erected or in course of erection in which steel lumber plays a prominent part. The most imposing structure was that of the Canton High School, a part of which has been in use for several years and a later addition, the auditorium is still in course of completion. It afforded a fine object lesson in that method of construction.

One of Canton's sky scrapers, the Renkert Building, the home of the Metropolitan Paving Brick Co., the main office being on the 10th floor, an unfinished ceiling in the attic, exposing joists of roof construction. No signs of corrosion. Lower floors finished with tile in corridors and overloaded with non-bearing marble partitions. Ceilings entirely devoid of cracks and very few noted in tile floors. Offices and store rooms finished with wood surface.

#### Inspection of the National Pressed Steel Co's Plant at Massillon.

From Canton the party motored to Massillon, where they had luncheon in the restaurant of the National Pressed Steel Company's big office building, after which they were shown through the plant, where "National" steel lumber sections are produced on a large tonnage basis and by a continuous operation.

The raw material is steel slabs or billets. These slabs are loaded into heating furnaces by means of electric cranes and the heated slabs dropped directly onto hot strip rolling mill tables. The slabs vary in size according to the sized section to be made, but average about 17 inches wide by four inches thick and a total weight of about 700 pounds.

These small billets are raced up and down the tables with astonishing speed, all roll tables being electrically controlled. Passing through a roughing mill first the billets are rolled out through a series of rolls until a short steel strip varying in width from five inches to eighteen inches and about 130 feet long is produced. This tremendous elongation is achieved gradually, the steel having dozens of passes through the rolls, first on one side and then on the other and finally passed through a finishing roll and coiled on a motor-driven reel. The coils are carried by electric traveling cranes out of the hot mill department into the steel lumber fabricating department. This department is located in a building 100 feet by 400 feet. The strip steel coils, after cooling, are fed into shaping machines and come out as channel sections. Two of these channels are placed back to back and fed through electric spot welders, thus forming I-sections called joists. From the welders the sections, still 130 feet long, pass big high-speed friction saws where the long section is sawed into whatever lengths are required.

"National" steel lumber joists or channel sections are always painted at the mill, it was stated. This painting is done by picking up a huge bundle of the sections with an electric crane and dipping them in a paint vat about seven feet wide

and seventy feet long. When the paint has dried the sections are ready for shipment. Railroad cars are run right up into the building for loading by electric cranes.

The conferees also visited the open-hearth furnaces where steel is made, saw a heat drawn off into huge 70-ton ladles; molds poured and various shapes of raw steel rolled, including the sort of slabs from which the steel lumber is made. The entire process from pig iron to finished painted steel lumber sections was visualized.

After the trip of inspection dinner was served in the factory dining room and was followed by another talk fest. It was all in all an unusually pleasant and instructive excursion.

#### FIND A LOGICAL BASIS.

Making a gradual decline in building material prices is too much like cutting a dog's tail off an inch at a time. It means a long painful operation and it were better to be a little more heroic and do it all at once. The industry should seek to find a more logical solid ground for the year and get to it at once even though it involves some present loss.



The Renkert Building, Erected 1913, Faced with Metropolitan Repressed Paving Block, Backed Up with "Minerva" Partition Tile Manufactured by the Metropolitan Paving Brick Co., Canton, Ohio. Main Office, Tenth Floor, This Building.



## HOLLOW BUILDING TILE AND ITS RELATION TO BUILDING LAWS AND THE ADMINISTRATION OF THOSE LAWS.\*

By C. C. Crockatt.

WE ARE GLAD of this opportunity to discuss with you building officials collectively, the relation of the building officials to the Hollow Tile Industry. We have had the opportunity of talking to some of you gentlemen personally in our daily work on Hollow Tile Codes, and we find that you are continually seeking the truth and facts regarding building materials and methods of application. At times we have felt that our own material was being discriminated against in favor of a competitor's material, but, generally, it works out that the building officials have the greatest interest at heart in the public health and safety of the public, coupled with good sound engineering practice and you have only placed restriction on hollow tile where, in your opinion, it was to the public interest to do so.

We realize that there are limitations to all things and it is the policy of the Hollow Building Tile Association to recommend the use of our material only in places where it is best fitted. The Hollow Building Tile Association is ready at all times to work with you on any hollow tile problem which you may have. On the other hand, I feel that every citizen of this country is entitled to a choice of materials, where such materials comply with sound engineering practice and protect the public health and safety of the community.

We are continually studying our material with the hope of improving it and of finding new uses for it. At the present time we are supporting two scholarships at the Bureau of Standards in Washington, studying the fire-resisting qualities of hollow tile. These two men are devoting all of their time to this important work, and we hope that, as a result of this study, we will be able to offer the building public a material that is superior to that which is now manufactured.

In analyzing the expression "Building Code," the first thought that occurs in one's mind is: What is a code? Webster defines a code as "a body of classified laws or regulations." We go one step further by saying a building code is "a body of classified laws or regulations for the protection of public health and safety, allowing the freest use of all materials consistent with good sound architectural and engineering practice." There is need for study with all of us in the thought expressed in the last portion of this definition "allowing the freest use of all materials consistent with good sound architectural and engineering practice." Too often have we followed in the other fellow's footsteps, simply copying what he has written into his building code, including the errors and mistakes, limitations and restrictions without giving real study to the work in hand. The preparation of a building code is a big job, and it cannot be properly done in a few weeks because due consideration must be given to:

Occupancy.

Available and future materials.

Zones or districts.

in addition to engineering standards.

Some municipalities, having old and antiquated building codes, do not permit of an economical use of hollow tile, particularly in residence and apartment house construction. For instance, just last week in a city in Kentucky I ran across a requirement of 16-in. for hollow tile walls for the first story in residences and 12-in. for the second story. In talking to the fire chief, who was also the building inspector, we were able to convince him that a change in their code

was necessary in order to permit the erection of dwellings for less money and at the same time safely.

This same opportunity exists in hundreds of other municipalities throughout the country.

Our recommendation for the thickness of hollow tile walls is as follows:

The minimum allowable thickness of all bearing, division, party, curtain or panel enclosures, walls of hollow tile shall be as follows:

(A) Within the fire limits, the minimum thickness for all bearing, party or enclosure walls shall be the same as provided by Section — for brick walls.

(B) Outside the fire limits the minimum thickness shall be as follows:

- (a) For a one-story building, 6 inches.
- (b) For a two-story building, first story, 8 inches, second story, 8 inches.
- (c) For a three-story building, first story, 10 inches, second story, 8 inches, third story, 8 inches.
- (d) For a four-story building, first story, 12 inches, second story, 10 inches, third story, 8 inches, fourth story, 8 inches.
- (e) For a five-story building, first story, 12 inches, second story, 10 inches, third story, 10 inches, fourth story, 8 inches, fifth story, 8 inches.
- (f) Where there is a cellar under the building the foundation wall shall be 4 inches thicker than the first story wall.

The acute problem of today is the housing problem and the housing problem is after all the construction problem, and the construction problem is nothing more or less than building costs and the elimination of waste. One of the causes of waste is arbitrary and unintelligent regulation. Unwise regulations are taxes and fall like rain on the just, as well as the unjust and the unjust fellow is the one who usually gets the umbrella, so that in the end, the honest builder, the one who wants to do right, and the innocent consuming public pay the freight.

In view of the existing lack of much needed residences, school, hospital and other buildings, the exercise of every possible safe and sane economy, consistent with present accepted architectural and engineering practice in construction, and methods of construction, is the utmost importance.

Regulations which fail to agree upon the permitted use of materials utilized for like purposes in construction, aside from preventing the exercise or the best architectural and engineering practice, retard the progress of building operations and contribute to needless excess in cost.

Architectural and engineering design and inventive genius directed towards legitimate economies should not be limited by the conflicting rulings of building ordinances, which, in many instances, do not appear to be based upon the evidence of scientific tests, investigations and available data.

It seems to me that one way out of this tangle is to endorse the movement suggested by several of the building material associations, and now being studied by Secretary Hoover, through Mr. Franklin T. Miller, that the Federal government, through their scientists and engineers and with the co-operation of the building interests, produce a national basic building code that is equally applicable to one locality as to another.

If 18,000 is the allowable unit tension or working stress in reinforcing steel in pounds per square inch in Chicago, it hardly seems fair that the building public of Milwaukee, for instance, be restricted to a unit stress of 16,000. Regulations of this sort spell an economic loss, and when measured throughout the country run into many thousands of

\*Paper read before the "Building Officials Conference," at Statler Hotel, Cleveland, April 27, 1921.



dollars. I am defending neither Chicago's nor Milwaukee's regulations, but I do believe that a uniform unit stress for all building materials can be worked out which will provide for a maximum of safety, according to sound engineering practice, at a minimum cost.

This is only one of many such instances in practically all structural as well as non-structural materials, and a universal and happy medium can be found which will not work a hardship on any material and still raise the amount of completed building that a dollar will buy.

Building codes are good codes when they are teaching codes and not taxing codes. If we could be sure of honest installation of materials, then it would only be necessary to have our building codes expressed in two words, "Anything safe," but, unfortunately, there are careless manufacturers, contractors and workmen, therefore, we cannot have a building code this short, and we must be satisfied in improving and bettering our present regulations.

How can this be done? First, by taking all of the old codes, which were written from ten to thirty-five years ago, and some of the new ones also and either revise them or rewrite them in which recognition should be given to all



C. C. Crockatt, Chicago, Ill.

materials. There have been many new building materials placed on the market in the past decade, as well as new methods of application. Some are good and some are not so good, but those that have real structural or ornamental value should be recognized. I know of one town that does not even yet recognize the use of reinforced concrete. That building code is holding back the progress of that town and, no doubt, this holds true with other building materials.

Provision should be made in writing codes to admit at least a survey and study of all new materials and methods similar to the action taken by your chairman, Mr. Miller, in rewriting the New York Building Code.

There is at least one thought that we wish you gentlemen would carry away with you and that is: The Hollow Building Tile Association wishes and desires to work with you and for you on any hollow tile problem that you may have.

The clayworker who owns a coal mine can afford to shut down his clay plant to push the operations of his mine, but those who do not own coal mines may have to shut down because of the scarcity and high price of coal, for the soft coal prices are mighty hard things these days.

## SMOKELESS POTTERIES.

THE STAFFORDSHIRE potter is a man of tradition. The smoke of his oven, a dark plume of prosperity, has not died away since the Roman invasion. The old cone-shaped ovens, which fire the potters' ware, waste 90 per cent. of the heat they generate. The vision of a smokeless pottery seems either a Utopian dream or a forecast of ruin. But a revolution is being consummated in the potteries. The gas-fired smokeless oven is now a practical proposition.

There are several types of gas-fired oven, but the Dressler tunnel oven, recently installed at the Victory Works, Stoke-on-Trent, England, may be taken as a good instance. The Dressler oven is a tunnel of 300 feet long, through which a procession of forty-seven trucks, each bearing a ton of pottery, is mechanically propelled at a normal rate of one inch per minute. It is heated by gas generated from coke. The air is cool enough to enter at each end of the tunnel, the supreme heat being found in the center.

How revolutionary this principle is may be seen by comparison with the old-fashioned cone-shaped oven. This is fired by a wasteful expenditure of coal, and then cooled down again. That is to say, the heat generated by so much fuel is lost forever. But in the Dressler oven the heat, once generated, is conserved. It is hoped that the Victory Works oven will not be cooled for two years, so that, instead of a fresh firing by coal fuel for each batch of pots, we have now merely the maintenance of heat by means of coke, this principle must, indeed, transform the potteries. Brighter days in every sense are in store.

The Dressler oven naturally affects labor. Two men are employed as stokers. Much depends upon them, but otherwise the oven seems fool proof. The fireman in the potteries has always been an important figure. He has uncanny intuitions about firing. He is well paid and independent in spirit. The heat of the Dressler oven, however, may be mechanically regulated. In unloading the old-fashioned oven the workman mounts ladders and there are breakages. The unloading of accessible trucks is altogether a more effective proposition. The Dressler oven means economy of space as well. Immense drying and moulding rooms are built over the oven in the Victory Works.

M. M.

## MORTAR COLOR POINTERS.

That little publication of the Cleveland Builders Supply & Brick Co., "Material Facts," evidently realizing the important part colored mortar plays today in brick work, offers a splendid suggestion in mortar color pointers. First, of course, there is the injunction to use the same proportion in each batch of mortar. Other recommendations are to soak the mortar colorings, and to tool the joints. On these two points the advice is:

"In those colors containing lamp or carbon black, each tiny particle has a coating of oil and this oil is removed only by soaking in water, thus permitting the particles to be in suspension in the water. The water soaking has a tendency to add to the plasticity of the color, thus insuring a more even mixture with the mortar, and also aiding in making the color go further. In other words, the same weight of soaked mortar color will color a larger quantity of mortar and will color it more evenly than a similar quantity of dry color possibly can.

"In the actual work a tooled joint will show a stronger color than a flush struck joint of the same mortar. This is because the tiny particles of color are spread by the tooling directly on the surface, while in a struck joint the grains of sand, etc., catch the light and diffuse it, thus softening the color."





#### OBSERVATIONS TAKEN FROM SOME RAILROAD TUNNEL KILNS.

**T**UNNEL KILNS of the moving car type, may be divided into two general classes; First, those that are fired direct; second, those that are fired through the intervening agency of a muffle.

First, we will take the type in which the heat is passed direct to the car, with no provision being made to deflect the direct fire from the ware.

This type of kiln is by far simpler than any other type, but it is limited in the kind of material that it will successfully burn, and in this type, high grade fire clay of a very refractory nature, with a long or large burning range to it, is about the only kind of material that can be burnt in it, without overburning the top and the two sides of the car, and underburning the interior of the car.

In this type there is also an advantage in the use of a gaseous fuel—oil—natural or producer gas—than what there is in coal. The direct firing of coal, produces changes in the temperature at the time of charging and cleaning, and in either gas or oil, these changes are eliminated. The firing of oil has the disadvantage of being hard to keep the flash of the oil flame off of the ware, while in producer gas or natural gas, the flame can be baffled without any complicated system of checker work.

This type is by far the cheaper to build, per unit of capacity, and is simpler to operate, but it is hard to maintain a uniform temperature in all parts of the firing zone—meaning all parts of the car, and in some installations, it is necessary to build temporary fire brick muffles or saggars, to protect the outside of the car from the direct heat of the flame.

This type is built in single and double tunnels, one tunnel doing the drying and preheating and the other tunnel doing the actual burning, but in practice it has been found that this does not work out as satisfactory as drying the ware in multiple tunnel dryers before introducing the ware into the burning tunnel, so that nearly all of the latter day tunnel kilns, are built in single units and the drying done in a separate multiple tunnel dryer, the heat for which is furnished in different ways—some by direct fire, some by radiated heat, some by waste heat from the kiln, and others by steam; it is not the purpose of this article to comment on the way that the bricks are dried, but rather the way in which they are burned.

This type is also probably a little more economical in the use of heat units, but there are other considerations that more than offset this fuel saving, about which we will speak later.

In passing on this type, will say that for a fire clay of high burning range, particularly where the ware is of a rough nature, this type of kiln is all right, but for burning a ware in which the material is just of ordinary range, it is not to be recommended.

Years ago dozens of this type were erected for burning ordinary material that had but little burning range, and almost invariably the kilns were a failure and had to be torn down and rebuilt after a big expense, and in numbers of cases the companies that built them were so financially handicapped that they were either forced to suspend or were taken over by companies strong enough financially to build other types of burning apparatus.

This particular type of kiln, probably did more harm to the development of the railroad kiln than all other causes put together, for the reason that practically all of the installations built in the early days were built to burn ordinary surface clay, which can not be successfully burnt in any direct fired type of tunnel kiln, and as matter of fact, in only a few of the muffle type.

After about ten years disastrous experience with the direct fired type on surface clays, the brick manufacturer who investigated this type of kiln, became convinced that it was not the thing to burn ordinary clay ware in, and that in order to burn surface clay in a kiln of this type, some provisions must be made to keep the direct fire or flame off the ware on the car, so as an expedient, a temporary muffle was built around the outside of the ware on the edge of the car, and it was found that this was a big improvement, and that more uniform burns could be secured, but there was still too much of a variation in temperature; in addition, there was the constant building and tearing down of the temporary muffles, or saggars, and this was found to be very expensive, so in order to get around the temporary muffle, muffles were designed in which they became a permanent part of the combustion chamber in the firing zone, and today nearly all of the later kilns are so constructed that they shoot the flame into a muffle, and it does not come in contact with the ware, excepting as radiated heat.

After more or less experimenting with permanent muffles it was found that in the average kiln atmosphere, where the muffle was used, that the temperature of the kiln was uneven by reason of the heat working its way to the top of the tunnel, and staying there; in other words, by reason of its staying at the top of the tunnel it created in the firing zone, a "static" condition of the atmosphere which is very undesirable, so experiments were made by which fans were used to stir up this static air, but it was found that the fans either pulled too much air through, or not enough, and it was found impractical to get up a system of air ducts that would suit all temperatures, so after more or less experimenting, a muffle was invented in which the fire was forced into the middle of it, and the outside instead of being made out of solid fire clay bricks or slabs, was made out of a series of fire clay pipe, all arranged so that the hot air of radiation was forced into the top of the kiln or combustion chamber and as it slightly cooled, it dropped down by gravity through the ware, and was again



taken into the same muffle through the lower pipes, where it received its next charge of radiated heat and was again forced into the ware, this method being kept up indefinitely, and by reason of this particular designed tubular muffle, it was found that there was only a difference of some 7 to 15 degrees in the temperature of the top of the car, and that of the bottom of the car, which means that any material that had a very low burning range, could be satisfactorily burned in this particular type of muffled kiln, while on the other hand, in some of the other types of muffled kilns, there was still too much variation in the temperature to burn a uniform burn.

There have been quite a number of the latter typed muffled kilns built of late, and it is found that they are the only type that will satisfactorily burn material with low burning range, into common, face and other kinds of building bricks, as well as ordinary fire proofing used for building purposes.

The circulation of heat in this type of muffled kilns showed that pieces of paper have been tied to the car bottoms at various distances below the fire clay slab on the deck, and when the cars came through, it was found that the top piece only was scorched by the heat, the lower ones being just the same as they were when they were attached, indicating that the heat is used in the ware,—where it is needed—and not radiated out of the kiln. In one kiln it was possible to lay the hand on the outside brick work of the combustion chamber, without experiencing any burning sensation, while on this same kiln it was possible to sit on the top of this section of the kiln in comfort. These things are cited to show that with all the high temperature in the kiln combustion chamber, the whole outside of it was cool, showing that the ware was absorbing practically all of the heat units generated.

This type of muffled kiln, known as the circulating heat type, as against the other type of muffle, known as the static heat type, can be safely used to burn any ordinary ware in almost any form, whereas with the other type, there is more or less the element of risk incurred in the burning of anything but medium refractory material.

The firing zone is lengthened or shortened to take care of the capacity, and in no case, should a tunnel kiln ever be built, like somebody else's tunnel kiln. For all material and products should be considered separately, and a kiln that will be satisfactory for one material at a certain temperature, may not be satisfactory for another material, at a different temperature.

In conclusion might say that a thorough investigation should be made by prospective builders, before contracting with anyone for their kiln.—Experience.

#### MAGNESITE IN 1920.

The year 1920 was a history making year in the magnesite industry in this country. The shortage of the imported product in the war period stimulated home development, with the result that production increased 94 per cent in 1920 for 1919. The entire output was made in two states, California and Washington. Most of the California products was used as a plastic material, only a small part of it being used for refractory purposes. Practically all the Washington product, however, was dead burned and used for the lining of furnaces and smelters.

The largest magnesite producer in the United States is the Northwest Magnesite Co., Chewelah, Wash., which, in 1920, shipped more than ninety thousand tons of dead burned product. Other producers in Washington were the American Mineral Production Co., Valley, Wash.; The Western Materials Co., near Valley, Wash. Among the large producers in California were the Tulare Mining Co., and the Sierra Mining Co., at Porterville, the White Rock Mine, operated by Frank

R. Swesey in Napa County, and the property of the Western Materials Development Co., operated by C. S. Maltby.

#### BRICK MANUFACTURERS INSIST ON PUTTING FREIGHT RATE FIGHT UP TO PRESIDENT.

**B**ECOMING WEARIED by the seemingly interminable delay of the Interstate Commerce Commission in adjusting freight rates to a point within reason, brick manufacturers and shippers of other building materials have taken the matter in their own hands and have placed the subject squarely before the President. It is, in fact, the first driving attack by major shippers against high freight rates as impeding national progress and has resulted in an agreement for a joint conference in Washington toward the end of May between producers and shippers, railway executives and members of the Interstate Commerce Commission. The meeting was arranged only after the producers' group, representing brick manufacturers and all the other larger building materials interests had carried to President Harding their demand for prompt action. The situation was urgent, they told the President, and would not brook "the ordinary, slow and expensive processes" of appeal for relief through the commission.

The President at once approved the conference plan, which contemplates bringing the rate problem to an immediate issue and getting stagnated construction work throughout the country on the move again through concessions in rates by the carriers.

A report on the steps taken by the material men, made by Hugh Fullerton, of Springfield, Ohio, representing the American Mining Congress, shows that the group of producers representing concerns which supply brick, tiles, clay products, sand, lumber and gravel determined to carry their attack on freight rates to the President when efforts to negotiate freight rate reductions through general freight agents of the railroads failed. A number of conferences in Washington culminated with the visit in a body to the White House. A telegram was next sent to Daniel Willard, of the Railway Executives' Association, asking him to attend the joint conference, to which Mr. Willard agreed "with the understanding that representatives of both sides in interest are prepared to discuss the matter in its broadest aspects and with a spirit of co-operation."

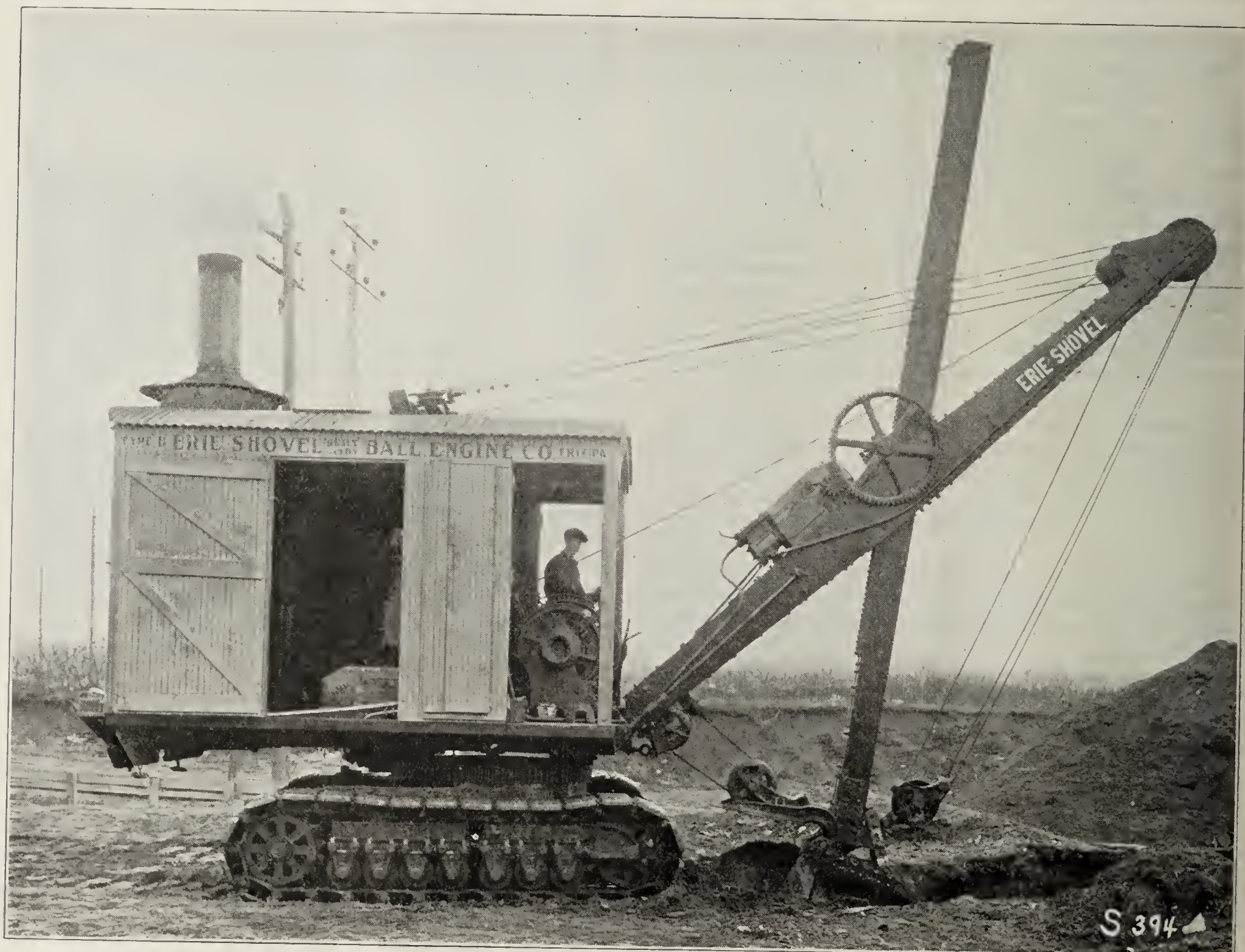
In their statement to President Harding the brick manufacturers and other producers said, in part: "Irrespective of the fact that there is an unprecedented demand for all kinds of construction materials, the building and road-making industries are at a standstill. The chief causes of deterrent in building work is excessive freight rates applying on that class of materials which are heavy loading and of low value.

"Freight rates on building and road materials have been increased on an average of 110 per cent. since 1917 as compared with 75 per cent. on general commodities. In some cases the rates on building and road making materials are now in excess of their price at the point of production. The rates have been advanced away beyond the point the traffic will bear."

Among the building material organizations represented at the conferences and in the visit to the President were the following: American Face Brick Association, H. F. Stringer, Texas; National Paving Brick Manufacturers, J. G. Barbour, Ohio; Hollow Building Tile Association, H. M. Keasby and W. M. Councill, Missouri; National Association of Sand and Gravel Producers, E. Guy Sutton, Indiana; National Lumber Manufacturers' Association, Frank Carnahan, Texas; National Crushed Stone Association, A. P. Sandles, Ohio; the Gypsum Industries Association, W. D. Lindsey.

—ALFRED T. MARKS.





Views of Type "B" Erie Shovel on Caterpillar-Type Mounting Equipped with Steam Hoe Attachment and 24-in. Dipper Stick.



## NEW "STEAM HOE" FOR TRENCH EXCAVATION.

Standing Entirely Clear of the Trench It Does Not Cave Sandy Materials.

**A**FTER nearly five years of study, experiment and test of a patented device for trench excavation, the Ball Engine Co., of Erie, Pa., has just perfected and placed on the market the "Steam Hoe."

It might be described, in a homely way, as a "back-acting steamshovel,"—for the dipper moves toward the machine in digging, and fills with a "hoe" motion, instead of being hoisted upward and outward.

This difference in the digging motion is very important in many kinds of trench excavation. Since the dipper is loaded

Equipped with 22-ft. dipper handle, the Erie Steam Hoe digs trench as 14' 0". When digging trench of this depth, it is best to carry the boom at 40 degrees with the horizontal. At this angle, the Erie Steam Hoe, with 22-ft. dipper handle, can dump material 13' 9" above grade and 33 ft. from the center shaft. Excavated material is piled high, well away from the trench.

By means of the power-driven worm gear operated boom hoist with which every Erie Steam Hoe is equipped, the boom can be quickly set at the most effective digging angle.

In ordinary materials such as earth or gravel, the Steam Hoe easily gives an output of 200 to 300 cu. yards a day in trench excavation. The machine is very quick-acting, with the same simple control that has proved so successful on the Erie Steam Shovel.

The Erie Steam Hoe is furnished with either traction wheel or caterpillar-type mounting, the two types of mounting being interchangeable on the same truck frame.

Another valuable feature of this machine is its ready convertibility to either a steam shovel or a locomotive crane. Every Erie Steam Hoe can be quickly and easily changed over to a steam shovel, for such work as road grading, cellar excavation, loading rock at the quarry face, digging cemented gravel, etc. Or, in less than a half a day's time, an Erie Steam Hoe can be readily changed over to an Erie Locomotive Crane, to handle a clamshell bucket for such work as loading or unloading cars, deep excavation, etc. The Erie Crane also gives excellent results with dragline bucket or orange-peel.

### CONVERTING PLAIN BRICK INTO REFRACTORY BRICK.

There is a story going the rounds of technical journals about converting ordinary brick into refractory brick which is given here for what it may or may not be worth. According to the story there has been developed a German method of converting ordinary brick into fire brick by coating the brick with a mixture of 75 per cent. of carborundum and 25 per cent of sodium silicate.

The mixture is applied to thoroughly dried brick after which they are dried 24 hours then slowly heated and the coating burned in. It is claimed that the firmly adherent glassy veneer of carborundum produced makes the brick highly refractory as well as resistant to mechanical injury and that sudden changes appear to have but little effect upon them.

### REFRACTORY PROCEEDINGS.

The printed proceedings of the 8th Annual Meeting of Refractories Manufacturers' Association, which was held at the Hotel Pennsylvania in New York, March 17-18, indicates splendid progress made by this organization and emphasizes that one of the great needs of the day is for more research.

The organization of refractories has been doing some splendid co-operative research work through the Mellon Institute of Industrial Research, and the benefits resulting therefrom point plainly to the need for and importance of more research, of making industrial research on a co-operative basis an even more important feature in the future, because out of it industry makes progress and individual manufacturers gain profit as well as increase in knowledge.

Porter S. Kier, of Philadelphia, under the subject of "What Everybody Should Know About His Product," urges manufacturers of refractories to arrange for weekly fusion point tests as an assurance of more uniformity in product, and as a preventive of unjustified complaints. He points out that the more a man can know about his raw material and



Beginning an Excavation in Crumbly Material with a Type "B" Erie Shovel on Caterpillar-type Mounting Using the Steam Hoe Attachment and 24-in. Dipper Stick.

by pulling in toward the machine, a Steam Hoe backs away from the trench as it digs. Thus it works along always on solid ground, instead of being supported on a platform over the excavated trench like a steam shovel.

But the Steam Hoe's ability to work on solid ground is of greatest advantage in soft or sandy material. On such excavation a steam shovel, with its weight carried by the side of the trench, is delayed by many cave-ins. The Steam Hoe not only does away with most of the cave-ins, but eliminates much of the trench-bracing.

While the Steam Hoe is especially adapted for soft and sandy soils, it is just as well suited for the hardest kinds of trench excavation—such as cutting through stiff shale, or large boulders. This work requires all the strength and power of a steam shovel, which the Steam Hoe affords.



his product generally the better results he will obtain from his business. And the maintaining of positive knowledge involves frequent tests and a careful check-up on both raw material and the process of manufacturing.

The report as a whole shows splendid progress on the part of this organization, which started in 1913 with twelve manufacturers, and now numbers more than a hundred, with a well established office in the Oliver Building, Pittsburgh, and an organization equipment which seems to be rendering splendid service to the members.

Written for THE CLAY-WORKER.

#### MILWAUKEE AND WISCONSIN CLAY AND BUILDING NEWS.



NEW SCHOOL buildings, apartment houses, residences and public works are stimulating the demand for clay building products at this season in Wisconsin, according to leaders in the clay products industry. A dozen of the leading Wisconsin cities have under way the construction of school buildings, the cost of which runs into the hundred thousands, while numerous other communities are building additions or erecting new buildings on a smaller scale, but brick is the predominating material for school construction. Although a year ago a large part of the requirements of clay building materials was required for the construction of industrial expansion, this year there is very little of that type of construction. General building is principally single residences, duplexes and apartment houses. Of the first two types the use of brick is limited to certain parts, as the frame building is featured in this vicinity. However, the apartments are almost entirely of brick construction. What the first two lack in volume per building they make up in the large number now under way and the aggregate requirements reach a goodly-sized proportion.

Adjustments of labor and material prices have tended to stimulate the construction activity in Wisconsin. Consequently brick and clay manufacturers are inclined to feel optimistic over the prospects of the immediate future. Clay products have taken their losses in the process of readjustment, and if other building materials come down in like proportion, construction will be even more stimulated.

The most recent reduction announced here in prices is that of common brick, which declined from \$16 per thousand to \$14.50. This was a second reduction from the peak price of \$18, according to Charles L. Burnham, of the Burnham Brothers Brick Company. Prices quoted are for delivery at the job. Although Chicago prices will come down lower than local quotations, it was explained that Milwaukee cannot meet that price because of the higher cost of manufacture, due to the nature of the clay used, and due to higher freight rates.

Conditions in the face brick line, most of which are shipped into this territory from Illinois, Indiana, Ohio and Missouri, are developing quite satisfactory, according to Thomas Dever, of Ricketson & Schwarz, Milwaukee. Probably the largest individual demand for face brick at this time is in school building construction and for apartment houses, Mr. Dever stated. However, there is some activity in church, hospital and other types of buildings using considerable face brick. Prices on face brick have been reduced, according to the general trend, netting about 20 per cent, so that \$48 face brick are now offered at \$38 and \$35 grades at \$30.

Building tile and other similar clay products are less expensive today than for some time past, although not receded to pre-war prices. This is largely due to the desire on the part of manufacturers to do their share in stimulating build-

ing activities, but high wages, increased freight rates and greater expense for raw materials and supplies, are holding up any further pronounced cut.

Street improvements are beginning to assume form in the various cities of Wisconsin, and are offering a market for the sellers of vitrified paving block. Cities that have used brick pavement, with the usual satisfactory results for many years, are inclined to repeat when there is any question as to the type of payment desired. A specific case of this kind is reported at Kenosha, Wis., where the principal streets have been paved with brick for many years. The question of repaving Main street came up in the common council a few weeks ago. Bids showed sheet asphalt ranging as much as \$1 per yard less than the price for brick pavement. A merry fight developed between the material men seeking to get the favor of the property owners. In reporting the decision of the common council to use brick instead of asphalt, the local newspaper stated that "the discussion of the project revealed the fact that the majority of the property owners affected by the action favored the selection of the better paving no matter what the price might be."

At Darlington, Wis., a 15,000-yard paving job on Main street is under way, and the material selected for this job is brick with asphalt filler. Janesville is another Wisconsin city that has undertaken brick paving activities this spring. Contractors have been completing stretches of several blocks that could not be finished last year. Of the new 1921 paving program brick will share its usual large percentage in the selection of material as in past years.

Manufacture of brick and tile will be undertaken shortly near Monroe, Wis., according to the announcement of the purchase of five acres of land by Rudy and Otto Schober. Buildings and sheds are now in course of construction and machinery is being installed for the manufacture of clay products. The dry kiln and other equipment are about ready for the beginning of operations during the coming month.

With the sale of a retail general merchandise store, which was owned and operated for many years by Waechter Brothers, Sheboygan Falls, Wis., Charles H. and Adolph Waechter plan to devote more of their time to the activities of the Falls Brick & Tile Co., in which they own an interest. Adolph Waechter has, during the last few years, devoted much of his time to the business, and disposing of the retail business affords both brothers more time for the clay products firm.

Organization of the Illinois-Wisconsin Pipe & Tile Co., under the laws of Illinois, by present officials of the Atwood-Davis Sand Co., has been announced at Beloit, Wis. The company will manufacture sewer pipe and drain tile within ninety days and later add other products. A. S. Srenson, Chicago, will head the company, which will have an initial capital of \$50,000.

The Alden Clay Products Company, of Crandon, Wis., has filed articles of dissolution with the secretary of state.

A. BADGER.

#### DRAIN TILE RETURNS CHEERING.

The season's outlook for drain tile seemed to be a bit discouraging, but now returns are coming in that are more cheering. The actual returns indicate that the spring business in drain tile was better than had been expected. Brick men who combined the making of drain tile with brick say that the tile end of the business was a great help during the late winter and early spring. Also that while farmers grumbled and curtailed their buying in many lines many of them had already made the money as well as plans for draining and they went ahead with it. This speaks well for the faith of the farmers in tile draining as a good investment, and it should also lend encouragement for greater efforts at selling tile during the summer and fall.



Written for THE CLAY-WORKER.

BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.



BRICKLAYERS and carpenters of Evansville are working under a special agreement with the contractors and work is going right ahead. On the first of April the contractors announced that there would be a reduction of 20 per cent. in the wages of the building trades. The men refused to accept the reduction at that time and most of the building trades stopped work. The bricklayers and carpenters have returned to work since, however, and agreed to submit their differences to a board of arbitration, and it is expected that this board will make a decision within a short time. Under the terms of the agreement that the bricklayers and carpenters signed their reduction in wages is not be less than 10 per cent. or more than 20 per cent., based on the wage scale of 1920. The painters refused to accept a reduction in wages, as well as the sheet metal workers, and, as a result, the contractors in those lines declared for the open shop. Bricklayers, under the 1921 scale received \$1.25 an hour, while the carpenters received \$1 an hour. Since the bricklayers and carpenters returned to work, the hod carriers have gone out. They were paid 70 cents an hour last year and, under the new arrangement, were getting 57½ cents an hour, but were not satisfied to await the action of the board of arbitration and decided to quit work. It is expected that practically all the labor disputes in Evansville and other Indiana towns in the southern part of the state will be settled during the month of May and that building operations will take on new life. Contractors and brick manufacturers do not believe that there will be anything like a boom in building this year, but they do believe that there will be considerably more activity during the last half of the year than during the first part of the year. Early in May the planing mill owners of Evansville announced a reduction of 20 per cent. in all grades of mill work and one of the large sand and gravel firms in that city announced a reduction of 20 per cent. on the cubic yard for sand. Lime and cement are cheaper than this time last year and with a re-adjustment of the wage scale there ought to be a good deal of stimulation in building during the next few weeks. Petersburg is in the midst of the greatest building boom in its history. The building company that was organized in that town early in the year will erect about one hundred dwelling houses during the summer and fall. Oakland City is expecting to witness the erection of at least fifty houses. Shoals is also enjoying quite a building boom. A block of business houses and several residences are to be built in that town. The Huntingburg Pressed Brick Company at Huntingburg is shipping brick to Petersburg to be used in the construction of the new Pike County court house at that place. The company's contract calls for 100,000 face brick of a superior quality and fine finish.

Alhorn & Waller are engaged in burning two kilns of brick at Uniontown, Ky., the first brick to be burned in that town since 1916. The fire in the kilns was started about May 10, and about June 1 the owners of the plant expect to have 190,000 fire brick ready for the market. This is a new industry for Uniontown. For the past several years Alhorn & Waller made their brick in Morganfield, Ky., and their tile in Uniontown. Now both brick and tile will be manufactured in Uniontown and the plant of the company at Morganfield will be discontinued. The brick and tile factory is now operating steadily, with a full force of men at work.

John Andres, secretary and treasurer of the Standard

Brick Manufacturing Company at Evansville, has appealed to James E. Watson and Harry S. New, United States Senators from Indiana, and O. Ray Luhning, Representative in Congress from the First Indiana district, to support the general sales tax now before congress.

The union of bricklayers at Brazil, Ind., have voluntarily reduced wages \$2 a day in order to stimulate building in that city. It is said that several other building trades unions in Brazil will take similar action soon in order to get building started in that city.

Henry C. Kleymeyer, president and general manager of the Standard Brick Manufacturing Company at Evansville, and president of the Chamber of Commerce of that city, headed the drive that started on Monday, May 9, for new members in the Chamber of Commerce. It was expected that the membership would be increased to at least 1,400 before the drive came to a close. Mr. Kleymeyer was chosen by the board of directors of the body a few days ago as a representative to the annual convention of the United States Chamber of Commerce at Atlantic City, N. J., but at the last minute he was unable to attend the big gathering.

George E. Swartz, of Westport, Ind., a building contractor, was at Bedford, Ind., a few days ago with a force of assistants preparing to break ground for the improvements to be made at the high school building in that city. The Swartz Construction Company recently received the \$96,000 contract for the proposed addition and the enlargement of the assembly room and gymnasium and the work is to be completed during the summer vacation of the schools.

Plans are on foot to establish a plant for the manufacture of brick and clay at Madisonville, Ky., a few miles south of Evansville, that will have a capacity of 75,000 brick a day. John J. Moroney, of Chicago, visited Madisonville about two or three weeks ago on a tour of inspection and announced at the end of his investigation that there were ample deposits of good clay in Hopkins county. Accompanied by Ruby Laffoon, M. K. Gordon and several other business men, Mr. Moroney and Mr. Storer went to the clay beds from which exhibits had been obtained and made an inspection. Inquiry about the labor and conditions and transportation facilities were made by Mr. Moroney. He stated that he planned to establish a plant here for the manufacture of tile and fire brick, with a capacity of 75,000 brick a day, if his investigations proved that it would pay to do so. He also wants to interest local business men in the project. Mr. Moroney has the machinery and is ready to install immediately.

A. HOOSIER.

HEALTH STUFF.

There is no room for argument on the question that health is a good thing and one of the most desirable things for humanity, both in industry and out. There is lots of argument, however, about how we shall retain and safeguard our health, and, incidentally, we are having a little government co-operation in this business, and quite a lot of urging on the part of the United States Public Health Service for both employers and employees to co-operate with it in developing better health. It is a fine theory, but it hits a lot of snags in actual practice, because the average man considers his health as a personal, private matter and resents any interference or effort on the part of constituted authorities to take a hand in directing it, and especially in making physical examinations. By and by we may be able to overcome some of this personal resentment and, meantime, the best road toward it seems to be that of going along the line of education and persuasion as preferable to the arbitrary introduction of health supervision ideas.



## THE AUTO, THE TRUCK AND THE BRICYARD.

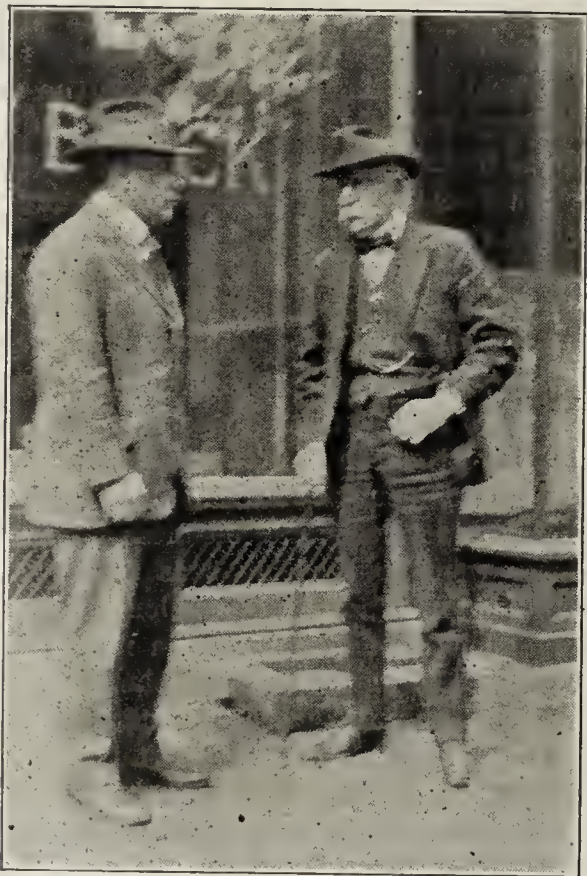
A Modern Combination Which Makes for Speed and Economy in the Operation of Building Brick Business.

A RECENT TRIP TO PHILADELPHIA resulted in an unanticipated pleasure—a delightful auto trip from Philadelphia, Pa., to Washington, D. C., with the veteran Quaker City brick manufacturer, William Conway. Clear, bracing weather, fine roads and a big and very comfortable Peerless car, with an expert, though careful, driver made the century drive a joy long to be remembered.

After noon-day lunch at the Union League Club we were driven to Mr. Conway's brick plant, at Fifty-eighth and Walnut streets, where, surrounded by a residence district, the plant is still operated throughout the year, the raw material being brought in from various excavations for building operations. Some years ago, to avoid complaint of smoke nuisance from the neighbors, a continuous kiln was built, with a tall stack, so there is no trouble on that score. We observed the

which we did to the "queen's taste," thanks in a very large measure to L. Perry West, who acted as guide and pointed out the many interesting embassies and other official homes of the notables which, with the many memorial statues and government buildings, make our National capitol a mecca for the lovers of structural art from all portions of the world. "Perry" being a native of the city and having furnished the brick for many of its structures, great and small, is naturally familiar with every nook and cranny of the district.

The building brick plants which supply the local market are located across the Potomac River in Virginia, some three and one-half miles from the White House, which is now near the heart of Washington's business center. A fifteen minutes' drive from Mr. West's office, at New York avenue and Fifteenth street, past the famous Washington monument, and across the combination causeway and bridge, which spans the mighty Potomac, brought us to the plant of the West Brothers



John H. Miller and William Conway in Front of Mr. Miller's City Office.



William Conway at Home.



Conway's Brick Trucks, Brickyard Office in Background

coming and going of some heavy service trucks, with which all the brick deliveries are made. The accompanying snapshot shows some of the trucks in front of the brickyard office, where the drivers were taking orders.

From the brick plant we drove to Mr. Conway's beautiful home in Lansdown, a suburb of Philadelphia, where another snapshot was taken, showing "Will" on his own front porch ready for the afternoon's drive, which took us through an interesting country, dotted with thriving cities and hamlets. We had a fleeting glimpse of Wilmington, Del., and stopped at Baltimore, hoping to say "Howdy" to Warren Griffiss of the Baltimore Brick Co., but he was out of town, so we drove on to Washington, where we arrived in time for dinner, but little traveled stained, the roads being clean and dustless. This was particularly true of the brick paved roads, of which there are many long stretches, over which one may drive at a speed of from forty to fifty miles an hour with safety and comfort.

The following day was devoted to seeing Washington,

Brick Company. Here we again found the heavy service trucks playing a big part in the company's business. All their deliveries are made by truck. They have five of them, hauling from 2,000 to 2,500 brick per load and each truck average five loads per day. The plant has been operated at better than 50 per cent. of capacity during the past year, with the exception of four weeks during the winter when they closed for an overhauling and repair of machinery, etc. The brick are made on a wheel machine, a device peculiar to the Washington district. It makes a dense brick at the rate of 60,000 per day. The brick are dried in tunnels of which there are fourteen, each holding thirteen cars. There are five square open-top kilns, each holding 310,000 brick or more, and the burned brick are tossed directly into the trucks, which are driven into the kilns, thus saving the time and labor of handling them with barrows. The plant is in charge



of G. A. Martin, who has served as brick yard superintendent for many years.

There are two other building brick plants in the immediate vicinity—that of the Hydraulic Press Brick Company, and the Washington Brick & Terra Cotta Company, of which John H. Miller is general manager. He, like Mr. West, is a native of the district and a born brick manufacturer—his father being one of the charter members of the N. B. M. A. He and Mrs. Miller were familiar figures at many of the early conventions. Indeed Mrs. Miller continues to take a live interest in the association and the brick business, and is very proud of the success of her son, who succeeded to the management of the business on the death of his father.

It goes without saying we called at the White House to meet and greet President Harding, and visited the National Museum to view the remarkable collection of historical specimens of early life in America, and the equally interesting groups of animals secured by Colonel Roosevelt during his

much pep in the wrong place, which results in a spluttering confusion. The idea of pep into the wheels of business reminds us too much of some of the capers of the wheels of trick automobiles used in the comic pictures. Anyway just as it is the engine which drives the automobile through the wheels, and the more pep, there is in the engine the more speed there will be in the automobile, so it is in business, the place to put pep is in the engine end of the business, not the wheels or tail end.

So while we are strong for both the advertising man and for the idea of pep, we feel like urging more thoughtful expression and more effort to put the pep in the right place instead of scattering it around so loosely as this.

#### HIGHWAYS AND UNEMPLOYMENT.

There has perhaps never been a better time than the present to put into practice the idea of using highways, streets and other public undertakings as a balance wheel for employment. When there are slow times in industry and men



L. Perry West, one of His Trucks and the Driver.



A Fine Stretch of Brick Roadway Near Wilmington, Dela.

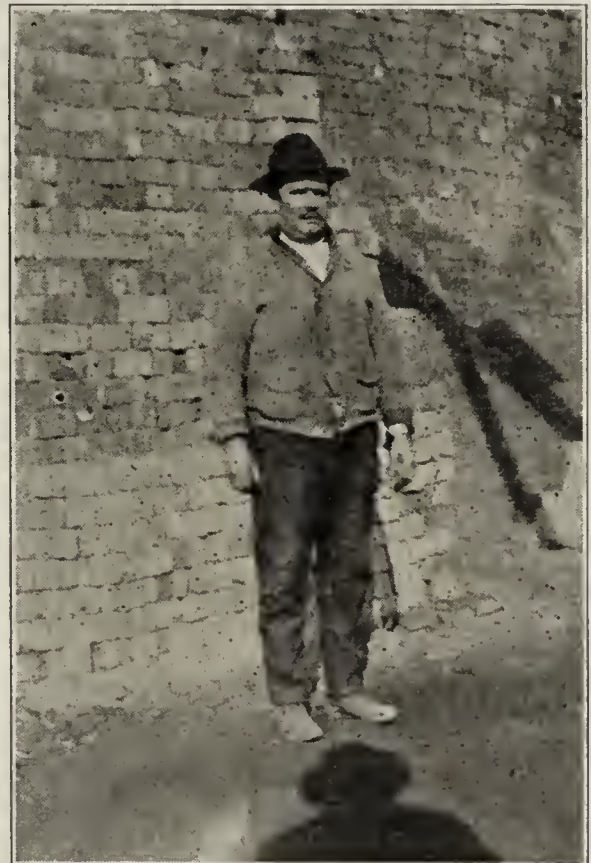
memorable trip to Africa. No trip to Washington is complete that does not include same and a view of the great Congressional Library and the untamed groups which inhabit the National Capitol in that immediate vicinity.

#### PEP IN THE WHEELS.

We are strong for the advertising man because they are the fellows who put enthusiasm into us as well as useful information. Once in a while, however, they pull a striking phrase which we cannot fully approve. One of them that came to hand recently is this:

"Advertising puts pep into the wheels of every business."

Why put the pep into the wheels? It were better to put it into the engine of business. One of our troubles and one in which we waste a lot of our energy is that of getting too



G. A. Martin, Superintendent,  
West Brothers' Brick Plant.

are in need of work then is the time that road building, street making and other public work should be speeded up to the extent of furnishing employment to those in need of work.

This is a theory that has been advocated heretofore, that of using public funds for public improvement and governing the activities somewhat by the needs of the country. That is doing more of this kind of work when there is unemployment and less of it when its doing serves to inflate wages by too much competitive bidding for what help is available.

At the present time, when industry comparatively slow, with men needing work, and with the whole country needing more good roads and more good streets, is a good time to speed up this kind of work. The hesitancy because of cost exceeding previous estimates is one of the things which adds to the present employment and serves to keep the wheels of industry slowed down. Let us put aside petty dickerings over the cost items of such improvements and speed them up.



## A KENTUCKY GROUP MEETING,



RESPONSE to a call sent out by President F. C. Klutey of the Kentucky Clay Products Association, a splendid small group meeting of clayworkers in the northwest corner of Kentucky held a group meeting at Henderson, Tuesday, May 3rd. The purpose of the meeting was to talk over conditions in the brick and tile trade and to survey prospects ahead.

The group spent a couple of hours exchanging thoughts and experiences upon conditions in the industry, then had luncheon together at the Kingdon Hotel.

In general the reports indicated some reduction in labor and other costs of clayworking, and a low tide condition in the brick trade, which now seems to be passing with promise of a gradual pick up. And a fair amount of business in drain tile with indications that the producers in this territory will be kept fairly busy through the season. In the matter of prices and the prospects of producing at somewhat lower prices, the indications point toward the possibility of lowering prices, perhaps as much as 10 per cent., because of easier conditions in coal and in labor.

There was in attendance at this group meeting one of the pioneers of the brick and tile business, Mr. H. Kleymeyer, of the Kleymeyer-Klutey Brick & Tile Co., Henderson, and the father of H. C. Kleymeyer of Evansville. The senior Mr. Kleymeyer is now 80 years old and is still hale and hearty, and still persists in driving out regularly to his plant. The only thing he complains of is that he is not able to walk as briskly now as in former years. Some question was raised as to just how long he has been in the brick business, and the letterhead of the firm claims that it was established in 1868. Mr. Kleymeyer settled that question by stating that he started into the brick business in 1865, and he related some interesting things of the ups and downs of the period following the Civil War which was in some respects comparable with conditions that have prevailed throughout the country of late.

Others in attendance at the meeting were:

J. D. Bobbitt, of the Madisonville Drain Tile Co., Madisonville, Ky.; H. C. Kleymeyer, Standard Brick Mfg. Co., Evansville, Ind.; Robert H. Bishop, U. S. Bishop & Sons, Sebree, Ky.; C. F. Cato, Dawson Springs Brick Co., Dawson Springs, Ky.; F. C. Klutey, Kleymeyer-Klutey Brick & Tile Co., Henderson, Ky.; Henry Clark, Clark Mfg. Co., Owensboro, Ky.; C. D. Dalton, Dalton Bros. Brick Co., Hopkinsville, Ky.; J. Crow Taylor, Louisville, Ky.

It is interesting to note that in the check-up of conditions it was found that the drain tile people have been busier than the brick folks, and unless the brick business improves considerably soon it will show up with a better season. Illustrative of conditions in the brick business, H. C. Kleymeyer, of the Standard Brick Manufacturing Co., Evansville, Ind., says that they have not up to this time operated as much as ten per cent. of what they could and should have operated. This was partly because they entered the new year with a good stock of brick on hand and partly because strikes and other causes have hampered building operations in Evansville so that the stock on hands has not been used up to the point which justifies active running. They are hopeful of better conditions and that they will soon have more of their operations going.

In contrast to this some of the drain tile men report that they have been fairly busy and they expect to have all they can do during the season. Robert H. Bishop, of the U. S. Bishop & Sons, Sebree, Ky., says they are busy and they see prospects ahead for all they can produce this season. They

have a stiff mud outfit and make brick, drain tile and a few building tile.

J. D. Bobbitt, of the Madisonville Drain Tile Co., says their product runs about 75 per cent. building tile and 25 per cent. drain tile, and that they are fairly busy and expect to be kept busy.

Henry Clark, of the Clark Manufacturing Co., Owensboro, Ky., says that they can easily sell all the tile they will be able to produce. They run about 70 per cent. drain tile and 30 per cent. building tile, also they take contracts to do building with building tile. In their building tile products they make a feature of silo tile which has demonstrated strong points of merit.

F. C. Klutey, of the Kleymeyer-Klutey Brick & Tile Co., said they were just getting ready and starting up their plants. They had quite a stock of both brick and tile on hand the first of the year and have been using this to supply the trade but have now reduced it to a point where they are getting busy at the plant.

C. F. Cato, of the Dawson Springs Brick Co., was a newcomer in the group, as they have just put into operation a new plant at Dawson Springs, part of it being equipment formerly used at Sturgis. The government hospital work and other building operations at Dawson Springs will easily require more brick than they will be able to produce and naturally under these conditions they are pushing their operations. They make a clay brick which he said burns to a dark red and very tough.

George D. Dalton, of Dalton Bros. Brick Co., Hopkinsville, says that the early spring season was very dull with them, but conditions are improving now and business is looking up a little.

A poll of those attending on the matter of coal prices and brick prices indicates a coal cost ranging from about \$2.50 to \$3.50 per ton, and brick prices running from \$9.00 up to \$16.00 at the kilns, with labor costs running from 25 cents to 35 cents an hour with some softening tendency.

After the meeting was over and good-bys were being said, H. C. Kleymeyer, of Evansville, made a confession. The substance of that confession is that he is now granddad.

### PLANT • MAGNITUDE.

The size of the clayworking plant has something to do with the economy of manufacture, but often it is other things than this which should really govern in determining the magnitude of any given plant. The main governing factor should be the limitations of the marketing field. There is no advantage in having a plant so large that part of its product must be marketed at distant points where freight and competition deprive one of chances for profit. For this reason a study of the potential market of the product in connection with the facilities in the way of fuel and raw material should to quite an extent govern in determining the magnitude of a plant. Efficiency and economy in production should then be studied in their relation to the size of plant one intends to operate. It is possible to get a goodly measure of efficiency and economic production in plants of varying magnitude by a careful study of local conditions and the fitting of machinery and equipment to those conditions. This is the real secret of economy in production today, a careful study of local conditions to adopt machines and methods which will best fit in with them for low cost results. The day of seeking magnitude purely for the sake of economy in production is past. There are other factors which determine the magnitude of a plant. Then when the magnitude is determined efforts at cost reduction should be directed toward those machines, methods and devices which best fit in with the quantity and kind of work being done.



## RECENT PATENTS

## IN THE CLAYWORKING INDUSTRY.

(Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering give patent number only.)

**No. 1,369,894. Method Of and Machine For Manufacture of Brick and Tile.** Sherburne H. Wightman, Birmingham, Mich., and Thomas A. Long, Melrose Highlands, Mass., patentees.

As an improvement in the manufacture of brick, tile, etc., the method herein described, which consists in feeding in succession into a mold quantities of plastic material, each quantity being less than that required to form the completed article, subjecting each quantity so fed into the mold to a pressure necessary to produce the necessary density and to force the previously-pressed portions along the mold.

**No. 1,360,245. Brick-Kiln Wall.** Halver R. Straight, Adel, Iowa, patentee.

A brick kiln wall which is formed of an inner and an outer wall and formed of a series of loosely laid bricks having their outer ends pointed or beveled, the said bricks being laid in staggered relation relative to each other, and the outer wall being formed solid.

**No. 1,373,513. Method for Handling Bricks.** James B. Ladd, Ardmore, Pa., patentee.

Patent for a method of handling bricks which consists in forming stacked units with the top course arranged to form parallel channels, the channel-forming bricks suitably spaced to form a support for a similar superimposed unit and at the same time to provide recesses for receiving lifting elements beneath the superimposed unit when resting upon the channel-forming layer, and for permitting the withdrawal of said elements therefrom, and translating the stacked unit by inserting the lifting elements into said channels beneath the unit and moving same.

**No. 1,373,854. Refractory Brick.** Charles W. Berry, St. Louis, Mo., patentee. Patent assigned to Laclede-Christy Clay Products Co., St. Louis, Mo.

A process for manufacturing refractory material consisting in first mixing the desired proportions of magnesite and bauxite in a raw condition, mixing in water, then burning the resultant product at a temperature sufficient to drive off moisture and gas, next regrinding the calcined product and mixing with water, finally forming same into a suitable shape, and burning such shape to produce a hard refractory article.

**No. 1,355,689. Composition of Matter for Fire-Bricks and Refractory Linings.** Arthur F. Quin, Humber Bay, Ontario, Canada, patentee.

Patent granted for a refractory composition which comprises mica, asbestos, and salt, these ingredients ground and mixed.

**No. 1,373,903. Clay Press.** Ralph F. Meyer, Freeport, Pa., patentee.

Patent for a clay press which includes the combination with a die member of a hollow mold adapted to contain plastic material and cooperating with the die member for forming a longitudinal opening in the plastic material, means for moving the mold toward and away from the die member, a plunger movable toward and away from the interior of the mold.

**No. 1,374,173. Brick-Making Apparatus.** Marcus P. Andrews, Petersburg, Va., patentee.

In an apparatus of the class named the combination with the agitating and feeding vat into which the mixture is deposited of a tunnelway having a throat connected with the vat, a

plunger for forcing the material through the tunnelway, a plate feeding mechanism for delivering separating plates to the tunnelway on the recession of the plunger, means for reciprocating the plunger, an agitator and mixer in the vat, the agitator and mixer including a feed propellor.

**No. 1,374,203. Kiln and Fire Brick Therefor.** Simon H. Harrison, Easton, Pa., patentee.

In an iron-encased, brick-lined calcining chamber or furnace, the novelty which consists in wedge-shaped bricks having the area of contact between the lining brick and the enclosing casing reduced to flanges only, the structure being sealed against passage of gases longitudinally of the casing and the bricks being held in position by their mutual wedging actions.

**No. 1,372,320. Arch Brick.** William Schuttler, Chicago, Ills., patentee. Patent assigned to American Arch Co., New York, N. Y.

Patent for an end arch brick for boiler fire-box arch construction provided on one end with a surface adapted to take against a side sheet and on the other end with a substantially vertical extending convex surface adapted to abut against the adjacent structure and to permit swinging of the brick on a substantially vertical axis.

**No. 1,361,148. Brick Mold.** Robert A. Fountaine, Martinsville, Va., patentee.

A brick molding device comprising a frame which consists of parallel side and end angle bars forming a mold, parallel wires connecting the side bars, parallel wires connecting the end bars, means on the bars adjustably supporting the ends of the wires, this means comprising wedge-shape blocks having wire-receiving slots therein.

**No. 1,372,773. Tunnel Kiln.** Glenn E. Norman, Nevada, Mo., patentee.

This patent is for a tunnel kiln comprising a longitudinal structure, the walls and dome of which are provided with longitudinal air passages the full length thereof adapted to be heated by the heat affecting the walls of the structure, and an exhaust air-directing compartment at one end of the structure into which all of the longitudinal air passages enter.

**No. 1,373,238. Channel Brick.** Arthur Hardoncourt, Jr., Richmond Hill, N. Y., patentee.

A channel brick comprising a plurality of vertically-extending wall sections and a horizontal web joining said sections, each wall section consisting in a pair of spaced vertically-extending rib-like members enclosing a mortar recess.

**No. 1,364,155. Brick-Kiln Floor.** Halver R. Straight, Adel, Iowa, patentee.

Patent awarded for a floor block having its top and bottom substantially parallel and its ends beveled upward and inward, one side being provided with a vertical groove or recess.

## SWEET'S CATALOGUE.

The seventh edition of Sweet's Engineering Catalogue, published by Sweet's Catalogue Service, Incorporated, New York, is now out. This well-known catalogue has grown to be of mammoth size as well as a regular standby as a reference catalogue on materials, and now contains 1,251 pages thoroughly indexed and profusely illustrated. Notwithstanding its large size it is claimed that the new edition is smaller, lighter and easier to handle because of the better quality of paper and the better system of indexing and arrangement. There is listed in this catalogue about 700 manufacturers of materials used in building and engineering operations, including almost everything from drawing boards to dynamos and from lighting equipment to locomotive cranes.



## THE STORAGE BATTERY TRUCK.

A Time and Labor Saving Invention That is Being Used by Up-to-Date Brick and Tile Plants.

**E**VERY EFFICIENT help in the economical handling of material around a brick or tile plant may be found in the sturdy load carrying Storage Battery Truck shown in the accompanying photographs.

This machine is a worthy member of the line manufactured by The Atlas Car & Manufacturing Company, of Cleveland, Ohio, and represents the very latest achievements in the interchangeable unit idea.

Due to the simultaneous design of a complete line of Industrial Trucks and Tractors, it was possible to utilize the same parts throughout the series, thus the driving, steering control, trailing units, etc., are identical and interchangeable and the owner need carry but one spare part in place of the usual one part for each type of truck, repairs or replacements being thereby greatly simplified.

The type H. P. Truck shown in the photographs has an overall length of 8 feet 10 inches, width 42 inches, height to platform 24 inches. The load capacity is 4000 lbs. and the load platform of checkered plate is 7 feet long by 42 inches



Atlas Type HP. Truck Being Loaded at Stock Pile. Load Capacity, 4,000 Pounds

wide. The outside radius of the truck is 7 feet 9 inches and operation in intersecting aisles 6 feet wide is possible.

All four wheels are steered by means of a horizontal tiller, and either 2 or 4 wheel drive can be furnished.

The drive is from a flexibility coupled vehicle type motor to a single reduction worm and gear, the latter being entirely enclosed and immersed in an oil bath.

The universal joints allowing the necessary turn of the wheels in steering are provided with grease tight covers. Bearings throughout are high duty ball. Press on type rubber tires 20 inches in diameter by 3½-inch face are standard. The frame is built up from heavy commercial rolled sections hot riveted. Pedestals similar to locomotive practice are provided for the axles, and heavy coil springs carry the entire frame and battery weight. The battery compartment has a lift out section of the platform floor plate giving easy access for inspection or flushing.

The brake is of the external contracting shoe type and is interlocked with the controller safety switch in such a manner that when the operator releases pressure on the foot pedal the brake is applied and before it can again be released the controller handle must be brought to neutral.

This feature makes the truck absolutely fool-proof for the reason that unless the operator is in his proper operating position the truck will remain stationary with the brake ap-

plied. An electric horn is standard equipment and is operated by a push button switch in the controller handle.

The controller is of the Drum Type, entirely enclosed; has three speeds in either direction—the first only being through resistance—the safety switch feature before mentioned being an integral part of the controller.

All steering mechanism pins are non-rotating, hardened and ground, and are provided with renewable bushings.

Standard battery equipment consist of 21 cells A6 Edison or 12 cells 15 Plate Ironclad Exide or other lead battery. The weight with Edison Battery is 2,700 lbs. and with lead battery 2,850 lbs.

Speed 5 miles per hour or 440 feet per minute loaded.

Rocker side dump or gable bottom bodies of 40 cu. ft. capacity are supplied for these trucks. These bodies are detachable units and are very useful for handling coal, ashes or any similar material, and can be quickly removed when it is desired to use the truck for other work.

### TOO MUCH SYSTEM.

Under the head of evils of organization the Literary Digest quotes from some eminent authorities of the day who seem convinced that we have carried the idea of specialization and



Atlas Truck on Brick Plant. Driving Axle Is Interchangeable On Any Type Truck.

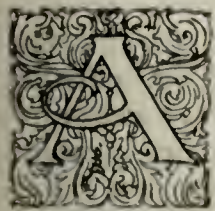
plant organization and system to objectionable extremes. It is but a modern example of a familiar condition which we have been through in the past—that of extending system ideas until they become entangling red tape, and interfere more than they help. Organization for systematic effort in plant and business management should be carried out simply to the extent and for the purpose of aiding man in his work. The minute they reach the point of interference with initiative and of curbing individual progress that minute they begin to do serious harm. It was but natural that we should reach a stage of system and specializing under the guidance of enthusiasts on this subject which would bring reaction. However, we should seek to find, somewhere short of the objectionable extreme, a happy medium of combining personal effort, specialization and organized system so as to get harmony of effort and at the same time encourage personal initiative and progress. It can be done and the people of this country are of the kind who will do it.

Plan books and advertising both help in promoting brick building, but another great aid is in the fact that building costs so much more than it used to, when people contemplate the cost of building these days they realize as never before the importance of building for permanence. And this fact makes a splendid hook-up with advertising in promoting interest in brick and hollow tile for building.



BRICK EXPORTS AS A TRADE LIFE INSURANCE—  
LATIN-AMERICAN FIELD OFFERING PROFIT-  
ABLE CHANCES.

Alfred Thomas Marks.



BRIEF ANALYSIS of our exports of brick for the year ended on February 28, 1921—a total of over \$6,000,000—would seem to indicate the fields which are most responsive to our efforts to cultivate foreign trade. It will be found that about 50 per cent. of our brick exports in the year named went to Canada, nearly 38 per cent. to the Latin-American countries, and the remaining 12 per cent. to Europe and Australia.

In brick, as with practically all other lines of our foreign commerce, we do not look upon Canada as an export field in exactly the same sense as we consider European and South American countries as export fields. And it is a question whether trade efforts exerted in Canada would increase our brick trade there to anything like the extent the same efforts would yield in other parts of the world. This has been the experience of many of our industries. The reason for this is that there is nothing we can tell Canada, either about our brick or any other of our products, that she does not know. It is in no sense a new and virgin market, and when Canada wants our brick, as she does largely and constantly, she will straightway buy of us without any special selling effort on our part. For all trade and commercial purposes the United States and Canada are one country, and the business takes care of itself, so to say.

But this does not apply in any wise to our brick trade in the Latin-American countries and the West Indies—and especially in the more progressive countries of the east coast, notably Brazil, Uruguay and Argentina. These countries (with Cuba and Mexico) took about 38 per cent. of our brick exports in the year ended on February 28, 1921. And this trade came to us without any effort to speak of on the part of our brick manufacturers—was handed to us, so to speak—principally for the reason that it had no other place to go.

The question which arises here, in view of the seeming necessity of cultivating markets beyond the borders of the United States for our brick—as a sort of “life insurance” against dull times at home—is as to what we could reasonably expect in the Latin-American field if we made a real American effort to get the business. The answer to the query would appear to indicate that, with fair effort at cultivating this field, which would necessarily mean a serious attempt to get the viewpoint of the buyers there, we could make of this a most profitable market and one which would look to us for its fast-growing needs in the brick line for all time to come.

And as a potential market for our brick and allied products the Latin-American countries are most promising. The use of brick for building purposes in many of the countries is just having its inception; brick are fast demonstrating their superiority to both adobe and wood, not only for residential and other structural purposes, but also for many public works, and builders there report a demand for exceeding the supply at this time and one which is constantly increasing.

The writer has recently been led to investigate this subject rather carefully as the result of an interview with a well known structural engineer of Rio de Janeiro, Brazil, at present in the United States. Speaking of the market for American brick in the South American countries, both present and in the immediate future, he said:

“The fact which should interest United States brick manufacturers at this time is that brick is fast superseding all other building materials in the South and Central American countries, and that practically no brick is at present being

manufactured in any of the Latin-American republics, although several of the countries have some brick-making machinery bought in the United States. The United States is the logical supply source—I might say the only country in position to furnish brick to Latin-America—and the opportunity to build up a good trade has never been better, and may never again be as promising for getting in ‘on the ground floor.’

“Especially in the cities is the demand for brick rapidly increasing. Stone, adobe and wood are having little or no call—the first on account of expense and the difficulty in securing, and the two latter for the reason that they are generally unsatisfactory. Brick and cement combinations are being largely used in Rio de Janeiro, Montevideo and Buenos Aires, also in cities on the west coast.

“Two factors at present seem to control the United States brick trade in South America. One of these, and the most important, is transportation; the other is price. If the United States expects to enter upon the job of supplying the Latin-American market with brick it will be necessary to be able to deliver the goods. This goes without saying. At present lack of adequate transportation and inordinately high ocean freight rates are having a retarding effect on this trade, but I am satisfied that this is but a temporary condition, for with the increase of shipping facilities which is now in prospect will come decrease in rates owing to competition, which does not now exist to any extent.

“The matter of price for brick set down in any of the South American countries will, of course, have much to do with the general and widespread adoption of this building material; but I do not see why United States brick manufacturers cannot quote lower prices than those of Europe. The United States is nearer to our markets, it is a shorter haul, it manufactures on a much larger scale and has other advantages not possessed by the European makers.

“The main thing, however, is to set about putting a permanent and durable foundation under the trade while the opportunity exists and while competition is not strong. The United States has done it in other lines—why not brick and clay products?”

Why not?

#### ECONOMY OF HEAVY TRUCKS.

An authority on trucks, R. E. Fulton, of the International Motor Co., manufacturers of the Mack truck, has compiled some interesting data on the approximate cost of hauling by motor trucks of different capacity. His figures show the average per ton mile cost for one and a half ton truck sixteen cents, two ton trucks thirteen cents, six and a half ton truck seven and a half cents. From this it may be argued that hauling in a seven ton truck can be done at practically half the cost of hauling in a two ton truck. This is of particular interest to the brick trade because brick is a heavy product and the hauling is quite an item in delivery cost. Moreover Mr. Fulton contends that in the final analysis the heavier trucks are not harder on roadways than light trucks because while they carry more weight and pressure, there are fewer trips made to move the same amount of tonnage, so the matter of weight balances itself up, the main difference being a more sturdy requirement in bridges and other structural support for roadways.

Certainly if we are to make progress with the sale of brick for use in sewer construction we must develop a standard for sewer brick and conform to it. There doesn't seem to be any room for argument on this point, the questions to be solved are those of what should constitute these specifications.



## Senator Calder Analyzes Proposed Home Building and Tax Exemption Laws "For The Clay-Worker" Readers

**B**RICK manufacturers will be interested in the two bills introduced by Senator William M. Calder, New York, which promise, if enacted into law, to have a very decisive effect on the resumption of building operations on an extensive scale. That the measures will be placed on the statute books, with possibly several amendments and alterations, is anticipated.

The most important of these measures, in the opinion of authorities in Washington, is the "Federal Home Loan" bill, providing the machinery for supplying funds for home building under governmental supervision and direction. The second measure, which may be considered as a further important aid in bringing back building activities, provides for a definite period of tax exemption on new building operations, residential and other.

The writer has talked with Senator Calder in order to present a brief analysis of the proposed legislation for "The Clay-Worker" readers.

Speaking of the most comprehensive of the measures—both of which are now before congressional committees for hearings—Senator Calder said that a long and close study and investigation of methods by which building operations may be stimulated on a large scale convinces him that the bill (S. 797), providing for the establishment of federal home loan banks will most expeditiously and effectively meet the situation in a large way.

"The primary and ultimate purpose of the proposed legislation," said Senator Calder, "is to make available without unnecessary delay the funds for building enterprises through the organizing of means directed, supervised and controlled by the government for this purpose. The bill is intended to encourage home ownership and to stimulate the buying and building of homes. Several of the provisions of the bill, which will give an idea of its general purport, are as follows:

"To enlarge the facilities for the purchase and erection of dwelling houses by wage workers and others, there shall be established in the Department of the Treasury a bureau charged with the execution of this act and of all laws passed by Congress relating to the establishment and maintenance of mutual and co-operative federal home loan banks. The chief officer of such bureau shall be called the Commissioner of Federal Home Loan Banks and shall perform his duties under the general direction of the Secretary of the Treasury. The Commissioner of Federal Home Loan Banks shall be appointed by the President, on recommendation of the Secretary of the Treasury, by and with the advice of the Senate, and shall hold his office for a term of five years, unless removed by the President for reasons to be communicated by him to the Senate; and he shall be entitled to a salary of \$10,000 a year.

"It shall be the duty of the Commissioner of Federal Home Loan Banks to prepare from time to time bulletins setting forth the principal features of this act and to distribute the same, particularly to the press, to labor journals, and to labor organizations; to prepare and distribute in the same manner bulletins setting forth the processes and advantages of obtaining homes through the aid of building associations and the opportunities and protection afforded such associations under this act; and advising investors of the merits, safety, and advantage of federal home loan bonds.

"Whenever a federal home loan bank shall, in the manner

herein provided, be organized in any district, the Commissioner of Federal Home Loan Banks shall appoint a federal home loan registrar in such district to receive application for the issue of federal home loan bonds, and who shall perform such other services as are prescribed by this act. Such federal home loan registrar shall receive a salary not exceeding \$5,000 a year, to be approved by the Secretary of the Treasury, and during his continuance in office shall have no official connection with, nor be an officer or director of any other institution, association, partnership, or firm engaged in banking or in making mortgage loans or in selling or dealing in mortgages. The salaries of the Commissioner of Federal Home Loan Banks, deputy commissioner, and of all appointees of the Secretary of the Treasury or of said commissioner, under authority of the act, together with the actual necessary traveling expenses of said officers and appointees, shall be paid by the United States.

"As soon as practicable after the passage of this act, the Commissioner of Federal Home Loan Banks shall divide the continental United States, excluding Alaska, into eleven federal home loan bank districts. Each district may be designated by number. Said commissioner may, from time to time, in his discretion, readjust the boundaries of said districts and may increase or decrease the number thereof. He may, as soon as practicable, after the passage of this act, authorize the establishment in each of said districts of a federal home loan bank, the principal office of which will be located in such city, within the district, as he shall designate. Each federal home loan bank shall include in its title the name of the city in which it is located. Any federal home loan bank may establish branches within its district subject to the approval of the commissioner.

"Each federal home loan bank shall be organized in the following manner: Whenever ten or more building associations located within said district, with aggregate assets of not less than \$5,000,000, shall associate themselves together for that purpose, they may organize the federal home loan bank of their district after having obtained a certificate of the Commissioner of Federal Home Loan Banks that they have complied with the provisions of this act and have adopted by-laws in harmony herewith approved by him. Every such bank shall be entitled to membership therein. Each federal home loan bank shall be managed by seven directors, selected by the member associations composing said bank. Such directors shall be citizens of the United States and residents of the member associations composing said bank. Such directors shall be citizens of the United States and residents of the district. They shall each give a surety bond, the premium on which shall be paid from the funds of the bank. They shall receive such compensation as may be approved by the Commissioner of Federal Home Loan Banks. They shall choose from their number, by majority vote, a president, vice-president, and secretary-treasurer. They are further authorized and empowered to employ such clerks and other employes as they may deem necessary, and fix their compensation, subject to the approval of the Commissioner of Federal Home Loan Banks."

The exemption from taxation for a definite period of years of building enterprises may be regarded as a corollary or adjunct of the more comprehensive scheme of financing the home or business structure builder, and while it will not of itself prove a sufficient stimulus for bringing about building on a large scale, it will prove of tremendous assistance pending the return of normal and stable conditions.

ALFRED T. MARKS.



## BRICK MANUFACTURERS ASK TARIFF PROTECTION.

Petition House Ways and Means Committee to Put 25 to 35 Per Cent. Duty on Foreign Products.

A NUMBER OF BRIEFS have been filed with the House Ways and Means Committee asking tariff protection for the United States brick industry, the figures suggested ranging from 25 to 35 per cent. ad valorem. The briefs have been made part of the committee's permanent record, and will be given due consideration in the framing of the new tariff law on which the committee is now engaged.

Following is the brief of Far West Clay Co., Tacoma, Wash.:

The clay products industry, particularly in the Northwest, is very much in need of higher tariffs on clay products, including all such items as common brick, hollow building tile, face brick, fire brick, flue lining, etc., to protect the manufacturers from very serious competition from Canada, England and Scotland. Face brick, fire brick and hollow building tile manufactured in British Columbia are making inroads on the business of clay products manufacturers, both in the Washington district west of the Cascades and the Spokane and Idaho districts. We presume this condition affects clay products manufacturers all along the border between the United States and Canada.

Previous to the war large quantities of Scotch and English fire brick were shipped all along the Pacific Coast as ballast for ships coming to this coast to take wheat and other materials to England. It was possible to sell this brick on Pacific coast markets in competition with local products all up and down the coast, and a large quantity of the brick was disposed of. We understand that now more tonnage is available Scotch and English fire brick have again made their appearance on the Pacific coast market.

While we are interested in anything that will do the clay products manufacturers good, we are particularly interested in a tariff on face brick, common brick and hollow tile. The last information we had was that the import duty on all clay products from Canada was 10 per cent. ad valorem while the duty into Canada was 35 per cent. ad valorem. During the years of 1912 and 1913, when western Canada had a boom, we shipped a considerable tonnage of hollow tile into Vancouver and Victoria in the face of a duty of 22½ per cent. You will understand that this was during a boom, and their local manufacturing facilities were not sufficient to take care of this business. We have not shipped a pound of material into Canada since the war and could not in competition with their local manufacturers.

We are bringing these matters to your attention with the hope that you will see the necessity for adjustment at the earliest possible time.—H. S. Wheeler.

The brief of the Moscow Fire Brick & Clay Products Co., Moscow, Idaho, emphasized the importance of adequate duty on fire brick, citing the fact that two small fire brick plants located in Latah county, Idaho, are in competition with fire brick produced in Scotland, England and elsewhere, where wages and conditions are not at all adequate for American labor, and that it was out of the question to sell American made fire brick in British Columbia, Canada, due to the fact that the Canadian government has a protective tariff on imported fire brick to the amount of 30 per cent., while Canadian fire brick manufacturers can dump their fire brick into American markets and are only taxed the small duty of 10 per cent.

The Refractories Manufacturers Association, New York, filed a brief petitioning that item 71 of the present tariff law

which now reads, "Fire brick, magnesite brick, chrome brick and brick not specially provided for in this section, not glazed, enameled, painted, vitrified, ornamental or decorated in any manner, 10 per centum ad valorem; if glazed, enameled, painted, vitrified, ornamental or decorated in any manner and bath brick, 15 per centum ad valorem," be changed, raising 10 per cent. ad valorem and the 15 per cent. ad valorem to 35 per cent. ad valorem, citing the burden of competition from the cheap foreign-made brick that have been coming into the eastern part of the country in large volume since the present tariff law was put into effect.

### MONTHLY DIGEST OF COMMON BRICK ASSOCIATION.

The Common Brick Manufacturers' Association of America reports that there is a range in the price of brick from \$12 to \$25 a thousand throughout the country. That high freight rates continue to be a serious handicap in the distribution of brick and greatly limit competition. Generally throughout the country a slight improvement in building conditions is reflected in the reports. The consensus of the report indicates that demand was a little stronger in the early part of last month than during the latter part, believed to be due to a general waiting for May 1 labor settlements. There is much unemployment in the building trades everywhere. Building mechanics could go into shops and other lines of industry during the war and the year immediately following, but cannot now, as there is an oversupply of labor in all lines. Another factor favorable to a peaceful solution is that the newspapers are joining with the contractors in urging liquidation of wages as well as materials. There are general indications that a considerable volume of normal business will be started as soon as labor accepts a reasonable cut, although another obstacle in the way is that financial conditions are not right for extensive operations. Schools and other buildings financed by public money are likely to loom large in the operations of the year. Next to public buildings, it is believed, will come housing. Brick manufacturers must look to these two sources largely for their sales. Throughout the country building codes are being revised to permit a more economical use of brick. Many old codes requiring 12-inch walls for two-story dwellings are now being logically revised to permit eight-inch walls for homes, making brick a close competitor of less enduring materials.

The members reporting are nearly unanimous in the opinion that labor efficiency is improving, resulting in a general reduction in the cost of manufacture. Labor supply is ample in nearly all localities. Of the plants reporting closed, about 20 per cent have so exhausted stock on hand that they plan early resumption of operations, and it is expected that the monthly digest for May will show much greater activity in the common brick industry.

### Inconsistency in Freight Rates.

Editor Clay-Worker:

One page 155 of your February issue you commented on the part that freight now plays in the delivered cost of materials and cite the freight on car of brick going to Cleveland.

We would call your attention to the case of a car of clay from this district going to the Trenton, N. J. district, wherein the value of the clay, taking a 55 ton car as basis, is approximately \$275.00, and the freight \$542.85. Freight on the same amount of tonnage from England to the same point is about \$315.00.

• Yours very truly,

THE JOHNSON-PORTER CLAY CO.

McKenzie, Tenn.





Entered at the Indianapolis postoffice as second-class matter.

A Practical Illustrated Monthly Magazine, devoted to Brickmaking and allied Clayworking Arts and Industries.

Title registered, contents copyrighted.  
THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

#### TERMS OF SUBSCRIPTION:

|                                             |         |
|---------------------------------------------|---------|
| One copy, one year (in advance)             | \$ 2.00 |
| One copy, one year (if not paid in advance) | 2.50    |
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| Ten copies, " " " " " "                     | 15.00   |

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Subscribers when ordering a change of address should give both the old and new address.

#### ADVERTISING RATES

Furnished on application. The CLAY-WORKER is unquestionably the most effective medium in its field, and character and circulation considered it is the cheapest. To insure insertion in current issue, advertising matter should be sent to office of publication on, or before the first of the month.

Correspondence on all subjects of interest to Clayworkers solicited. All communications should be addressed to  
211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 75. May, 1921. No. 6.

#### CURRENT COMMENT.

Burn more brick.

\* \* \*

Business is not dead, just dozing.

\* \* \*

Pay and produce are the up-to-date pushers' slogans.

\* \* \*

Why make a soft burned brick when it is worth more hard?

\* \* \*

There has been about enough reconstruction bywords and it's now time to say it with work.

\* \* \*

Clay storing and clay soaking are two good things that seemingly we have not yet gotten enough of.

\* \* \*

The machinery folks don't know it all, but they often do know something that will help you produce better products cheaper.

\* \* \*

The clayworker is hit from two to three times on freight rates. Sometimes on fuel and other raw material, then on shipping out his finished product.

\* \* \*

One of the encouraging things for those who are interesting themselves in more electric power transmission is in the fact that those who once take it up keep it up and seem better pleased with it.

\* \* \*

To skimp the burning in a kiln of ware is not true fuel economy. Real economy in fuel burning is founded on thorough burning, in the best practical manner, in the shortest

practical time, with the smallest amount of fuel that will insure these results.

\* \* \*

The percentage of "bats" has something to do with the percentage of profit from kiln burns.

\* \* \*

It is time to cultivate the home territory and to promote interest in more permanent home building.

\* \* \*

Though it is not "running in high" now the fire brick industry is neither dead nor sleeping. It's promising to speed up.

\* \* \*

There is no question about the motor truck being good for delivery work, the only question is the kind and number of trucks necessary.

\* \* \*

Every time and every place that you can handle brick successfully by mechanical means you are helping to solve the labor problems and to reduce factory cost.

\* \* \*

The Association of Railway Executives is issuing some bulletins about "Facts on Freight Rates and Business." If they would just issue some lower freight rates it might help business.

\* \* \*

Notwithstanding some assertion that it couldn't be done, we notice there has been some lowering of brick prices. Moreover it is right and proper that they should be lowered down to the lowest point consistent with fair returns from a properly managed business.

\* \* \*

We hear a lot of argument about good roads not turning out to be as good as they were supposed. This in the main is good argument in favor of constructing brick paved highways on proper foundations so as to secure permanency and freedom from the burdensome upkeep.

\* \* \*

It is not the amount of building being done that should concern the clayworker these days, so much as the getting a greater percentage of what is being done with brick. Eventually there will be plenty of building, and eventually most of the building will be done with brick and hollow tile. The more we can convert this eventually into the now the better it will be for all, and that is the thing to be concerned with.

#### THE CRUX OF THE WAGE QUESTION.

It is not heated arguments and hard contentions between organized labor and their employers which will make for higher wages and better satisfaction. It is production that determines the possible wage rate, and the way to the best order of production is through friendly co-operation and efforts on the part of all to bring into action the labor saving machinery and devices as will increase the production per man. The more we can do of that the higher we can maintain wage rates and the more we can all prosper.

#### FREIGHT RATE REDUCTION.

We are strong for freight rate reductions and feel like applauding governmental effort, which now seems directed toward this end. Freight is not only an important item in the delivery cost of brick, but it is proving a serious handicap in the selling of sand and gravel and others items which enter into building operations and this, indirectly, retards the sale and distribution of brick. Just how much freight rates may be revised downward only time and careful study



can tell. It is a good sign that both the authorities and the railway managers are inclined toward rate revision downward as early and to as great extent as circumstances will permit. The one drawback to it is that so long as we have agitation instead of action there will be some tendency on the part of buyers to hold up and wait for lower freight. So while we work for lower freight rates let us not agitate the subject too much, but keep busy and get the full measure of benefit from whatever freight reductions are practical when they do come.

#### A GOOD BUSINESS RECOVERY.

Business and industry is really staging a splendid comeback. Those who are impatient and feel that things are slow getting under way again perhaps need reminding that it takes time to do things right. We will look back a few years hence and then realize, perhaps, better than we do now that business in this country is getting on its feet all the more surely because it is taking a reasonable time about it. Haste makes waste even in business readjustment and those who feel impatient over the seemingly slow progress being made in building and in various industrial lines should find consolation in the fact that the very steadiness of the recovery of business is an indication that we are building up on firm ground which, in turn, insures freedom from sudden reactions and bespeaks an assured prosperity for years to come.

#### BUYING AND STORING COAL.

We have reached the point now where a man can discriminate and use his own choice and judgment in selecting the kind of coal he wants to buy. Also, at this writing, conditions in the coal trade are such that a man can buy with some assurance of stability of his coal values. For the sake of assurance against poor delivery and inconveniences coal users may well get busy and put some coal in stock so as to have a reserve against emergencies. Facilities for handling and storing coal are as important, in their way, as facilities for handling and storing clay and other raw materials, and proper plant management should include some special attention right now to the matter of buying and storing a reserve supply of coal.

#### FIGURES ON BRICKLAYING.

We have had from time to time some comparative figures on the number of brick laid by bricklayers. These were sometimes presented by people in an antagonistic spirit to show how much less work bricklayers are doing now than in pre-war days. Incidentally there have been so many striking differences brought out that it is interesting to find some discursive data on this point which gives us enlightenment about the number of brick a bricklayer can lay and what the conditions of the work have to do with the possible number.

Sanford E. Thompson, of the Thompson-Lichtner Co., Industrial Engineers, Boston, in an address delivered recently to the associated building trades of Philadelphia reviewed this matter of bricklaying, saying that he had a table made up some time ago showing the number of brick a bricklayer lays under ordinary conditions in an eight-hour day on different kinds of walls. His statistical showing furnished an average varying as high as 2,900 brick a day down to 145. The greater quantity was laid in heavy backing in rough work and the smaller quantity was in Roman pressed brick on fine city fronts. He said the difference here was not caused by soldiering or lack of skill, but solely by the nature of the work. Some kind of work requires more time and pains, and to make any comparison of figures of value there must go

with it some understanding of whether or not the work was similar.

Referring to his tabulated figures he said that they showed for an 8-in. blank wall a rate of 900 brick per day. Taking the same wall, with occasional openings, the number would be reduced to 760. Again the same man on a 16-in. blank wall would lay up 1,320 brick a day, or if the 16-in. wall had occasional openings his limit might be 1,130.

The point he sought to bring out in all this is that contractors and builders should study thoughtfully this bricklaying in connection with classification as to the kind of wall and the nature of the work. There is a classification, for example, of steel skeleton, with columns surrounded by piers of brick work, as distinct from plain walls, and the studies of bricklaying should be made after the classification has been outlined so that eventually we can have before us dependable figures on the quantity of brick that an average man should lay up in a given time on any particular job.

This furnishes us with some new light on the subject of the number of brick a man should be able to lay in a day, and it should turn us from slack arguments, in which figures of this kind are used loosely, into careful comparison and laying of different kinds of brick walls, and may begin making estimates that we may understand the relative costs of progress, instead of making contradictory arguments.

#### AGENCY HOOK-UPS.

One of the important factors in the brick business today is that order of salesmanship which will insure getting the product properly before all prospective builders. Properly interpreted this means active salesmanship in the community of the brick plant, and a looking after the agency hook-ups where wide distribution of the product is being planned. Agents and dealers represent quite a factor in the sales element and those who market their product in the larger cities through special agencies should be looking after their fences there and seeing that they are well and properly represented. Also it pays to establish a good hook-up with local retail dealers in lumber and building material all over the territory of distribution, for these too are becoming factors of importance in the sale and distribution of brick and other clay products.

#### BRICK COST AND PRICES.

The one thing that the brick fraternity is in pretty general agreement upon is that cost plus a reasonable margin for profit should be the basis for brick prices. Thus far the thing is simple and easy; but when one studies the happenings in the industry from day to day there appear many confusing and seemingly conflicting incidents. Some will be arguing that costs are not perceptibly lower, while at the same time some will be cutting prices sharply, and it leaves one with the feeling at times that either cost has not been figured right or costs have been disregarded in making prices. Figuring costs right does not mean that you should inflate your cost figures unreasonably as a matter of safety. Correct figures mean exact figuring so as to determine positively what your costs are. With these before you it is easy enough to determine what price you should realize for your brick. If that price seems too high and will not meet either the competition of others or the ideas of the buyers, then the problem is one of digging into your production methods with a view to reducing costs to the lowest practical minimum consistent with a good product and good service. One of the dangers of the present situation is that the trade may reduce prices more rapidly than it reduces cost and suffer in profits right



at a time when the industry should be making good money. Let us reduce cost and prices to rock bottom, but in doing so let us safeguard profit so that business may be stabilized by paying reasonably good returns.

#### TERRA COTTA COMPANY MOVES INTO NEW QUARTERS.

The Atlantic Terra Cotta Company announces the removal of its offices from 1170 Broadway, New York, to 350 Madison Ave., New York City. The southern factory of the company is located at Atlanta, Ga.

#### MID-SUMMER MEETING A. C. S.

The summer meeting of The American Ceramic Society is to be held at Canton, Alliance, Sebring, and East Liverpool, July 25, 26 and 27; with headquarters at the Hotel Courtland, Canton, Ohio.

Besides the visiting tours to the various ceramic industries in this vicinity, arrangements are being made for a banquet and other social functions.

Special plans for the entertainment of the ladies who accompany members to the meeting are being made by the committee.

#### RECOMMENDS RICKETSON'S COLORS.

The Ricketson Mineral Paint Works, Milwaukee, Wis., has received lately many unsolicited letters recommending their colors. A sample of these is the following, written by George P. Oliver, 471 Third Ave., N. Troy, N. Y.:

"I use your colors for fancy fire places of face or pressed brick, and also for decorative stucco work, such as panels, columns, sills and caps. I have wonderful success with your famous colors; they are certainly all that you advertise. I have used none better."

#### SEEN IN NEW JERSEY.

**T**HE trend of affairs in the major building centers is for improvement in the volume of building work. This has led to a fair demand for burnt clay products. While the activity is not what normal times bring, it is moving nevertheless. This is good for all concerned. The buyers are becoming interested, which is a step toward good times. With this element doing something, the demand will show a good increase. Contractors and dealers say they are receiving inquiries every day. These are mostly along the lines of the better class of face brick in pleasing shades, suitable for homes of people of moderate means. There seems to be a fair supply ahead available for immediate shipment. This is now generally shipped by truck than by rail. Water is preferred, but this is not always so it can be done.

Building operations are decidedly on the increase and going over the totals, the amounts run very high. Using Newark as a basis, the totals in construction operations for March were only \$2,500,000.00 behind what they were in the corresponding month of 1920. Then we must consider that 1920 was an abnormal year. The reason for such a large total showing up in that year was that a new ordinance was passed and every thing was done to file what plans could be filed before the new ordinance became effective. Taking out the amounts of these hurriedly filed plans, the totals for March, 1921, will compare favorably with the totals of 1920. Most of the work going on now is of the residence class and is quite encouraging.

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#### WORLD'S FASTEST RACE PROMISED THIS YEAR AT SPEEDWAY, INDIANAPOLIS, ON BRICK PAVED TRACK.

**T**HAT THE Ninth Annual 500-Mile International Motor Sweepstakes to be run on the Indianapolis Motor Speedway on Monday, May 30th, will be the fastest in the history of the famous brick paved track is the unanimous opinion of the racing experts who have been clocking the speeding little cars in the practice spins this week. All of the former winners from Ray Harroun, of 1911 fame, to Louis Chevrolet, builder of last year's victory, have declared that this year's entries are the fastest ever assembled for a speed contest.

Last year Ralph DePalma's Ballot was easily the fastest car in the race. This year the experts are agreed that there are from fourteen to eighteen cars capable of improving upon DePalma's speed of last season.

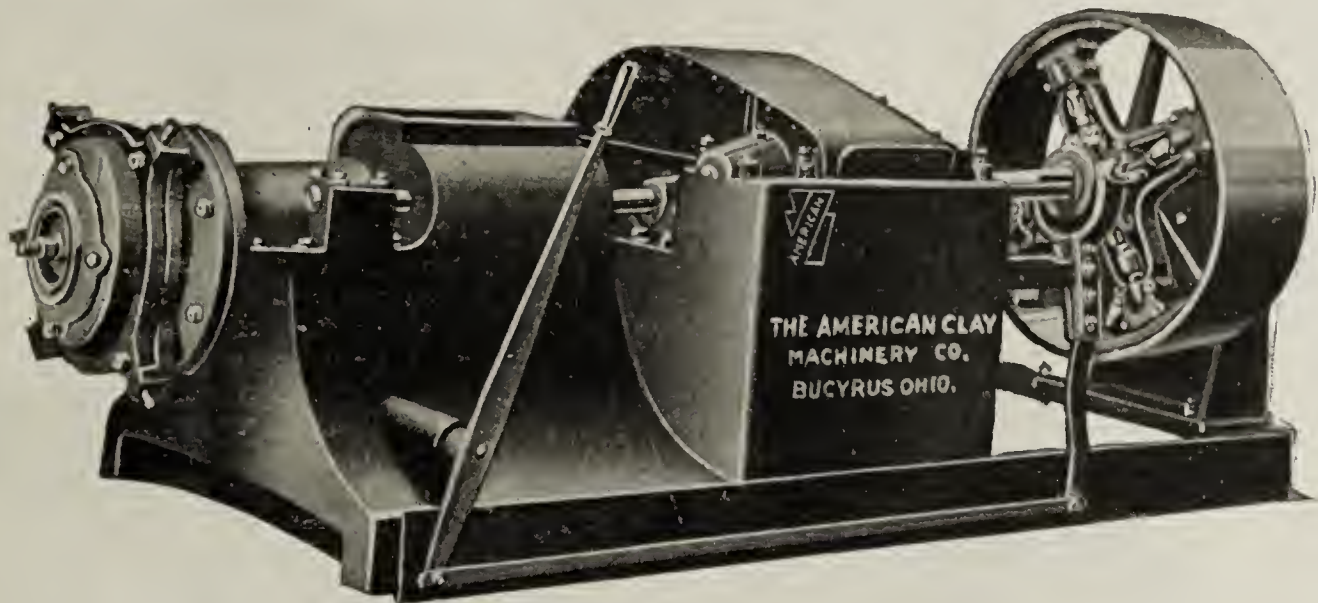
The entry gate has been closed with twenty-five of the crack drivers of two continents signed to travel the long jaunt over the bricks of the historic Hoosier oval for the largest racing purse ever hung up, approximating \$100,000.00.

Six of the drivers named have never competed in an event at Indianapolis, but all of them have established records on road courses or other speedways. All of them will be among the first to hit the bricks of the difficult Hoosier track to practice, while the old timers who have coursed the track lap after lap will devote more time to the preparation of the mounts and general conditioning of themselves.

The Italian flag will fly over the garage of DePalma and Resta, both having been born in Italy, while the tricolor of France will wave over the large French colony composed of Andre Boillot, Rene Thomas, Albert Guyot, Jean Chassagne and their large corps of assistants. Foreign cars entered in the race are Sunbeams, English; Peugeot, Talbot-Darracq and Ballot, French, with the other cars all made in America.



## American No. 281 Auger Machine



**American No. 281 Auger Machine.**

The American No. 281 Auger Machine is an all purpose machine being equally good on brick and hollow ware. It has strength and capacity and will deliver a maximum of first-class product. We will be pleased to send you a Bulletin, No. 281, telling all about this machine.

## American No. 282 Pug Mill

There is no better Pug Mill made than the American No. 282. Its a thorough mixing pug with the essentials for capacity, light power and long life. Get the No. 282 Bulletin.



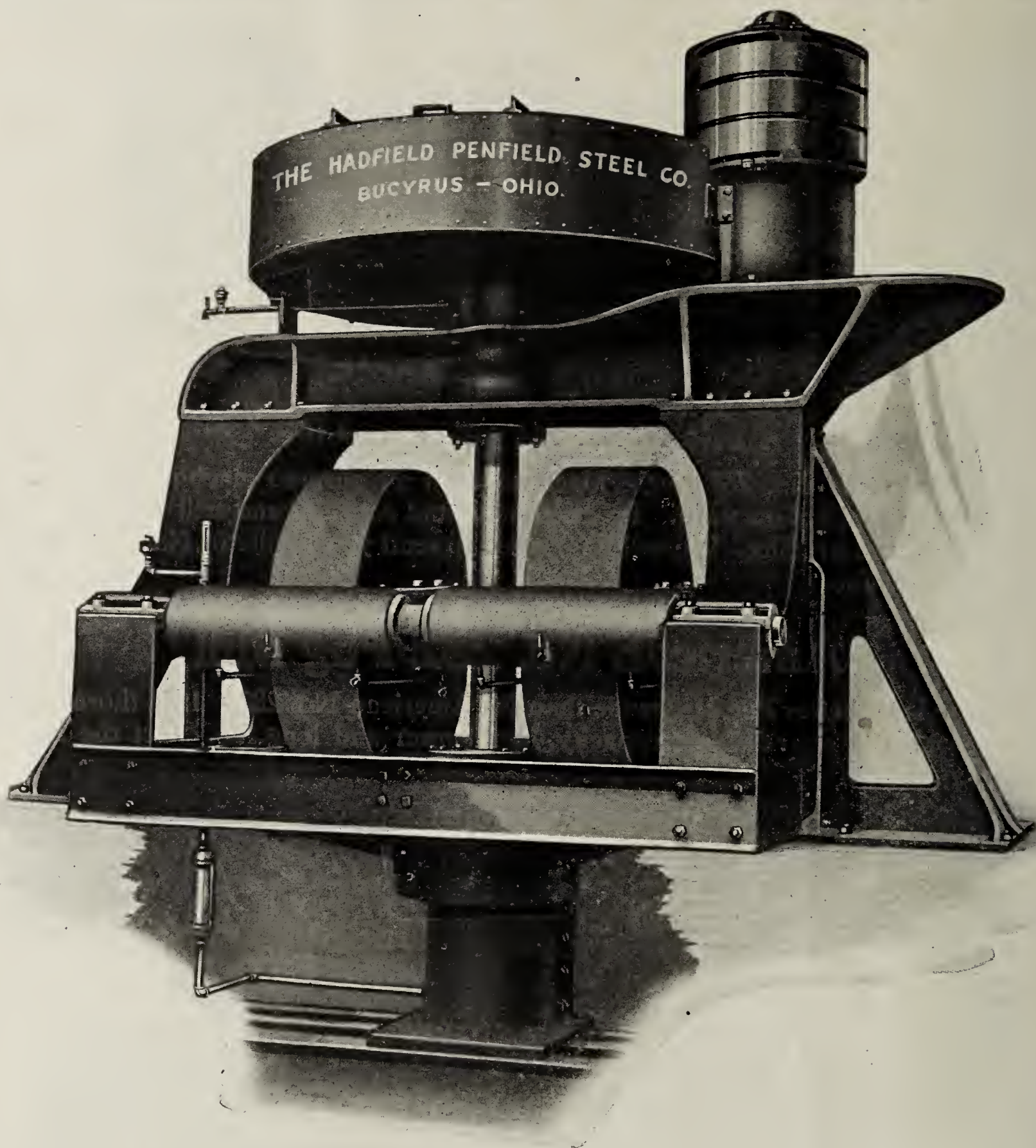
**American No. 282 Pug Mill.**

**The Hadfield-Penfield Steel Co., Bucyrus, Ohio**

Formerly The American Clay Machinery Co.



## American No. 384 High Speed Grinding Pan



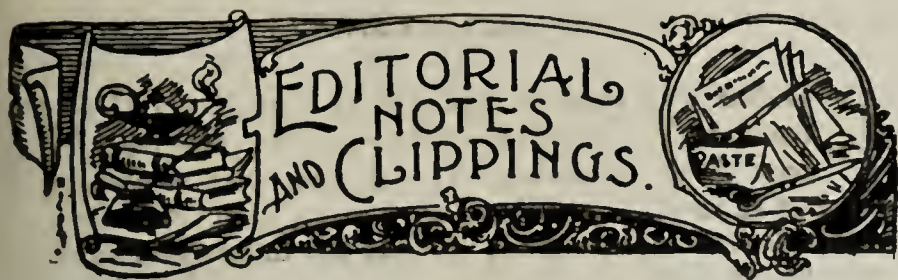
### American No. 384 High Speed Grinding Pan.

The American No. 384 High Speed Grinding Pan is a radical departure from other Dry Pans. It has no screen plates, and is radically different in other ways. Every change means greater output and longer life. Get complete description given in our No. 384 Bulletin.

## The Hadfield-Penfield Steel Co., Bucyrus, Ohio

Formerly The American Clay Machinery Co.





Kelsey City Brick & Supply Co., Kelsey City, Fla., has been incorporated with \$500,000 capital stock.

The Cameron Clay Products Co., of Emporium, Pa., is increasing its capital stock and extending the organization.

The Peebles Paving Brick Company's plant at Firebrick, Ky., resumed operations April 15 after being idle several weeks.

The Corbin (Ky.) Brick Company has increased its capital stock from \$30,000 to \$50,000. H. K. Smith is at the head of the company.

The W. J. Ready Brick Co., of Richmond, Va., has been recently organized by W. J. Ready and W. J. Crump. The company has \$50,000 stock.

R. E. Cooper, of Poplar, Mont., has started a new brick plant at Hardin, Mont., manufacturing both brick and tile. He is a brick man of many years' experience.

The Farber Fire Brick Company has been incorporated at Toledo, Ohio, with \$10,000 capital stock. A. C. Ruihley and B. E. Emery are mentioned as the incorporators.

Robert Jake, 1063 Fernwood Ave, Toledo, Ohio, writes he is going to start a tile plant at that place and would like to receive catalogs from machinery and supply manufacturers.

Jack Foster, secretary and treasurer of the Oil Creek Mining Company, 19 East South Street, Wilkesbarre, Pa., wishes to get in touch with manufacturers of brick and tile machinery.

The plant of the Barboursville (W. Va.) Clay Mfg Co., was slightly damaged by fire which started from an overheated kiln. J. G. Summer, secretary of the company, estimated the loss at \$150,000.

The Hanover Brick Manufacturing Co., of Morristown, N. J., has been organized with \$100,000 capital stock. They will manufacture brick, tile and other building materials. Charles W. Ennis, R. L. and J. L. McEwan.

Workmen at the Crown Brick plant of the Robinson Clay Products Co. accepted a 5 per cent. reduction in wages, which reduces their pay to \$3.50 a day of ten hours. Only one other plant in that territory is paying 40 cents an hour.

James R. Owens, treasurer of the New York Architectural Terra Cotta Company, died at his home in Brooklyn, May 10. Mr. Owens was seventy-four years old and had served the company as treasurer and assistant treasurer since 1888.

The Keystone Fire Brick Co., Philadelphia, Pa., has been incorporated with a capital of \$150,000 by A. M. Davis and James Warnock, Jr., Philadelphia, and Walter L. Hachnlen, Cynwyd, Pa., to manufacture fire brick and other refractory products.

The Security Trust Company has been named receiver for the Corunna Brick Co., of Detroit, Mich. The receiver contemplates limited operation of the plant at Corunna, Mich., which has been closed since last December. The company manufactures face brick.

The Orangeville Brick & Shale Products Company, of Orangeville, Pa., has applied for a charter. C. E. Davis is at the head of the company, which will mine clay and shale and manufacture building brick and tile, paving brick and block and a general line of clay products.

The Big Savage Fire Brick Co. is planning some additions to the plant at Frostburg, Md., which, together with the new equipment, will cost in the neighborhood of \$150,000, and will include new kiln and a building 200x150 feet for the manufacturing department, and another 300x150 feet for the kiln department. The output of the plant will be increased 50,000 fire brick and refractory shapes.

The Ridgeway Brick Company, which has been closed for four months, will resume operations about May 1, it was announced here today.

The main dry house and west engine room of the Harbison Walker Refractories Co. plant at Portsmouth, Ohio, was destroyed by fire the latter part of April.

The Willard Brick Company, N. Y., has been incorporated. This company has a capital of \$50,000 and is to manufacture common brick. Mr. E. W. Webb, of 149 Broadway is representative.

The Greenport Brick Co., of Greenport, N. Y., has been incorporated to manufacture and sell brick, by J. Brisman, 220 W. 32d Street, New York City. The company is capitalized at \$300,000.

The Colonial Brick Corporation, with headquarters in the Calvert Building, Baltimore, Md., has been incorporated with \$50,000 capital stock. Wm. F. Bell, Edward T. Reisler and Albin Widoff are interested.

The plant of the Denver Shale Brick Company, located near Arvada, Colo., was badly damaged by fire recently. The loss is placed at \$15,000. The machinery was destroyed by fire and the work of rebuilding the plant has been started.

The Jackson Fire Brick Company of Jackson, Tenn., recently changed hands, but will be operated under the same firm name. The company was organized eighteen years ago with a capital stock of \$25,000, and this has been increased to \$250,000.

Samuel Runkle and his son Roman, have acquired the Stauffer Brick Company at Red Lion, Pa., and it is said the new owners contemplate the operation of the plant. The purchase includes the plant, buildings and machinery necessary for the manufacture of brick.

James E. Rector, of Asheville, N. C., writes his company will install additional drying and burning facilities to add 25,000 brick per day to the output of their plant. They are now using an open top continuous kiln, using slack coal, and want to investigate producer gas. They will be glad to get in correspondence with dryer and kiln builders.

Walter S. Dickey, president of the Dickey Clay Manufacturing Company of Kansas City, Mo., bought the Kansas City Journal recently at a receiver's sale, for \$111,000, and in addition assumed a mortgage of \$100,000 against the Journal site and building. Mr. Dickey is well known throughout Missouri as one of the "old guard" of the Republican party.

The Johnson County Brick Co., Knob Noster, Mo., was recently reorganized with \$125,000 capital stock, with W. J. Mayes, president; Frank L. Mayes, treasurer, and S. C. Garrett, secretary. The plant will be enlarged and additional equipment installed which will give them seven kilns and increase the output from 30,000 to 50,000 brick per day.

The A. C. Ochs Brick & Tile Company, Springfield, Minn., recently succeeded in landing the contract for furnishing the brick and fireproofing for the largest building job in the northwest. A vocational high school is to be erected at Watertown, S. D., at a cost of \$450,000 and all the brick, tile and fireproofing will be furnished by the Springfield plant.

The 175 employes of the Robinson Clay Products Company sewer pipe works at Midvale, Ohio, were reduced from 40 to 35 cents an hour, beginning May 18. Only one plant of the Strasburg district continues to pay 40 cents an hour, it is said. The sewer pipe and fire brick market did not show the expected revival that first spring orders indicated.

The Kier Fire Brick Company, operating the ganister quarries at Brooks Mills, Pa., and owners of a large tract of land on Short Mountain, is starting the reforestation of their land by planting 40,000 pine trees on the western slope of the mountain. The work of planting out the trees is being superintended by S. M. Kier, president, who plant the first tree and will take special pride in watching its growth. The mountain slope being thus reforested is a portion of the woodland cleared many years ago. The Kier Company just recently acquired the land. It is estimated that it will require forty years for the young pines to grow into marketable timber and will thus form a valuable tract for some one. The land, as a rule, is not suitable for agricultural purposes, being rocky, but ideal for timber growth. The Kier Company has taken this opportunity during the slump in ganister work to get the



trees planted and at the same time provide employment for the men during the slump.

The Birmingham Slag Co., Birmingham, Ala., has preliminary plans under way for a new factory to manufacture brick, tile and affiliated products.

The Northside Brick Co., Pittsburgh, Pa., is being organized by W. J. Wilson, John Schlarmann and Joseph C. Gartner, to manufacture brick, tile and kindred products.

Fire which started in the clay elevator of the Gloninger Brick Company plant at Vanport, Pa., early in the morning of May 12, practically destroyed the entire plant, with the exception of the warehouse. The loss will run close to \$100,000, and includes all of the machinery and equipment, the office building and barns. Lucius McCullough, of Beaver, Pa., is the plant manager, while the main offices of the company are in Pittsburgh. The plant will be rebuilt at once.

The Trenton Potteries Company of Trenton, N. J., have taken rooms in the National City Bank Bldg., 15 East 42d Street, New York City. This is an ideal location, as it is readily accessible from all parts of the city and, in fact, the state. This building is so situated that out-of-town visitors arriving at either the Pennsylvania or Grand Central stations may reach the company's new offices without going to the street level. They invite a larger use of their New York office, which is maintained for the accommodation of their friends.

A petition containing over 400 signatures of residents of the Borough of Little Ferry, N. J., just outside of Hackensack, has been presented to the Mayor and Council of that place demanding the removal of Henry Gardner's brickyard from the corner of Lodi and Riverside avenues. The petition alleges that the brickyard is a detriment to the Borough located at the principal entrance to the town. As there is a legal question involved, and as the brickyard has been in that particular spot at least forty years, the matter has been referred to the Borough attorney for his opinion as to whether the Borough Council has the authority to order the removal of the sheds and fill in the big holes in the ground from which the clay has been dug.

The Hancock Brick and Tile Company, Findlay, Ohio, has found it necessary to make many improvements in the past year, due to the fact that the demand for tile in Hancock county is so much greater, according to the statement made by L. Child, secretary and treasurer of the company. During the last year the company has installed an automatic coal bin, purchased an engine, built over half mile of railroad, built a large kiln and a 100 foot brick stack for the power plant. Recently it added a new motor truck and trailer to its equipment which will haul 8,000 4-inch tile or 160 feet of 27-inch tile. This truck is to be used in hauling tile over the county. The company is now working a full force of men and is barely keeping up with its orders. The factory will make 1,400 carloads of tile in a year and generally works a full force of men the year round. The smallest tile made by the company is 3 inches and the largest is 27 inches.

The Okmulgee (Okla.) Brick Company is building a plant which when completed will be the most modern and complete in every way in that section. It will be operated by electricity, and burn the brick in a railroad tunnel kiln with natural gas for fuel. The company has a wonderful deposit of red burning shale which is underlaid with a vein of high-grade bituminous coal. The coal, however, will be held in reserve until the supply of natural gas diminishes. The equipment will include gasoline locomotives, and both raw material and finished product will be handled by machinery from the pits to the railroad loading platform. In order to maintain a contented and efficient force of workers at the brick plant, which is some distance from the city, the brick company has built up a model community consisting of about forty cottages and a school, the cottages being rented to employees at minimum rates. The Okmulgee Brick Company took over the properties of the Gaither Brick Company about three years ago and have been operating, and are still operating, the plant of the Gaither company, which was one of the first brick plants in Oklahoma. The old plant is now running at capacity and employs about forty hands. When the new plant is completed it will be used for the manufacture of paving bricks and the old plant will be used for making building bricks. John H. Rebold, president; W. B. Pine, vice-president; John P. Cook, treasurer; R. E. Buckles, secretary and general manager; O. F. Dickerson, E. R. Tibbetts and T. D. Harris, directors

## NEW YORK SITUATION.

HERE is a marked tendency of a real revival in the construction industry. Labor is the only distressing part of the situation. The Greater City is striking a real gait in the line of residential construction. The present outlook is most encouraging. Should the industrial and other construction pick up with the same vim and vigor that has characterized residential work, all factors in local industries will have no complaint.

Construction of large apartment houses has been making heavy calls on dealers in burnt clay products. Cargoes are arriving in the city fast. In the neighborhood of fifty reached this city during the past month. At least forty of these were distributed here in the same length of time. There is a program under way for the erection of several new school buildings and these call for brick and burnt clay products in large quantities.

Large numbers of up-state brick have been coming into the city of late, which would give the appearance on the part of the manufacturers to clear out their 1920 production before starting their manufacturing for this year. Brooklyn is making a heavy draft on common brick, using it in her rapidly increasing residential construction.

Some of the yards in the North River district are about to commence manufacturing for the year, but most of the manufacturers are in no particular hurry to get to moving. It may be some time before the yards get down to full capacity. The plants that run all year seemingly are able to maintain production at a point where the present draws have no material effect. This condition is viewed with pleasure by the manufacturers.

There seems to be a concerted movement on foot among the manufacturers to reduce the wages of their employees. The figures that were paid in 1919 seem to be the most favorable. This would give the laborers a reduction of around \$1.50 per day with a proportionate decrease all along the line. Brick unloaders would receive a reduction of twenty per cent, which would mean a reduction of from \$1.00 to \$.80 per thousand brick. Just what will happen is problematical, but hopes are held out for a continued production.

The prices of burnt clay products are holding firm at former quotations. In a few instances there is a strong tendency to show a decline. The average at present is about \$47.50 per thousand for face brick. This product is one that is showing a tendency to become balky. Partition tile has had a sharp decline during the past two or three weeks. The thinner varieties show a decrease ranging between thirty and forty dollars per thousand square feet. Common brick is quoted at \$17.00 per thousand delivered in the Greater City, while up-state points are paying anywhere from \$22.50 to \$35.00 per thousand delivered. These prices vary as the distance increases from the source of supply. Generally there is a lower figure along the canal route. In a word, much of the present building activity through the state can be attributed to the decline in prices as set forth by the manufacturers. Many of the manufacturers are selling at a sacrifice of profits.

Mr. Joseph Briskman, trading as the Atlas Brick Company, at 112 West 42nd street, New York, has effected a composition with creditors. Liabilities are \$355,511.00 and the assets are \$357,174.00.

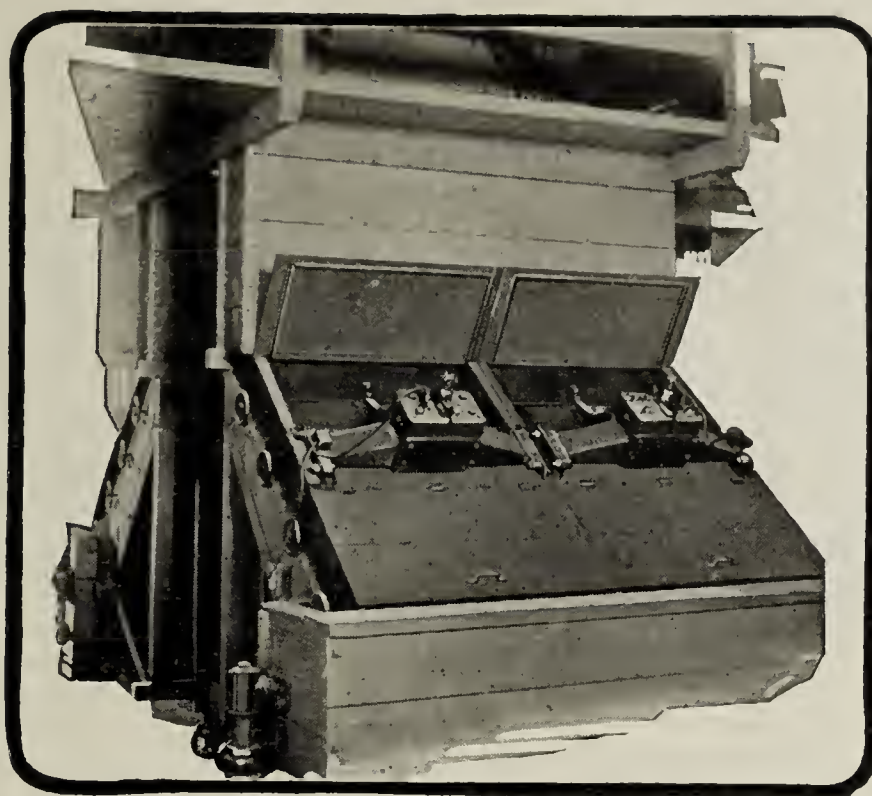
It is reported that Morrissey & Company have purchased the B. J. Allison & Company brick plant at Haverstraw, N. Y. It is rumored \$50,000.00 was the consideration paid for the property.

BURTON.

## NEW USE FOR CLAY.

The manufacture of a firelighter from clay deposits found on his land is being undertaken by a Waldeck, Sask., farmer. This deposit is the only known one of its kind on the American continent, although considerable quantities of this clay are also found in Germany. The firelighter is in the form of a brick. It is soaked in kerosene for a few minutes, and when it has absorbed a quantity, a match is applied. The brick will burn for half an hour with a steady flame, and when exhausted can be replenished with kerosene and used indefinitely. Other uses to which this clay can be put are: kalsomine, filler for paper, Dutch cleanser, white shoe polish, and brick or tile of the very best quality.





**\$0.00148 Per Ton!**

*cost of operating*

## Four Hum-mer *Electric* Screens

at one of the largest copper mines in the United States.

The figures below were compiled by the  
Supt. of Concentrators after a 6-month's run.

|                                                                   |                  | % of<br>Total |
|-------------------------------------------------------------------|------------------|---------------|
| Labor for 6 months ending Dec. 1, 1920 . . . . .                  | \$419.08         | 58.5          |
| Supplies for 6 months ending Dec. 1, 1920 . . . . .               | 168.67           | 23.6          |
| Power for 6 months, 6405 K.W. at 2 cents . . . . .                | 128.10           | 17.9          |
| <b>Total</b>                                                      | <b>\$715.85</b>  | <b>100.0</b>  |
| <b>Total dry tons milled and screened during period . . . . .</b> | <b>483,399</b>   |               |
| <b>Cost of screening per dry ton milled . . . . .</b>             | <b>\$0.00148</b> |               |

"I am pleased to say that we have recently completed a prolonged test on our 'Hum-mer' screen installation.

"Our ore carries practically a uniform moisture of 3.5%.

"The feed to the screens is crushed through one inch, practically all through three-quarter inch, and the screening is done dry. We de-

sire a 4 mesh undersize product for primary table treatment.

"Feed is delivered at the rate of 4200 dry tons per 24 hours by a conveyor above the screens and is evenly divided by two steps. At the head of each screen, the feed is retarded and spread by a suspended, weighted gate.

"In general I will say that we are entirely satisfied with the work of the screens."

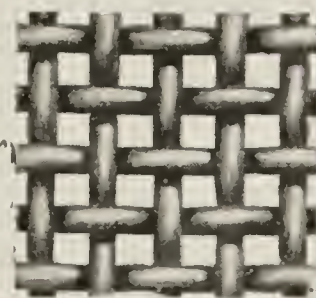
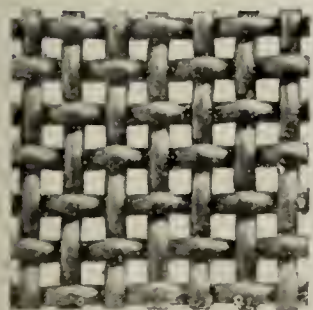
*Superintendent of Concentrators.*

*The Hum-mer Electric Screen can be used to screen any material—wet, damp or dry. Send for Catalogue No. 42-W*

**THE W. S. TYLER COMPANY**

CLEVELAND, OHIO

Manufacturers of Woven Wire Screens and Screening Equipment





## THE THICKNESS OF BRICK WALLS FOR SMALL RESIDENCE BUILDINGS.

(Continued from page 559)

heavy rainfall, in moisture being conducted the full length of a header by capillary attraction. The Ideal wall provides a positive break in the mortar joint and eliminates the penetration of moisture from this cause. You noted yesterday that the eight inch wall has one such break and the twelve inch wall has two breaks in the mortar joint. Moreover, in the twelve inch wall we have no material in continuous contact from front to back of the wall. The cavity also aids in keeping the wall dry by the slight but continuous flow of air within it. This is why it is safe to omit the furring even on the eight inch wall.

These are not merely theories but proved facts. Although the idea of this wall was worked out a few months ago by the Common Brick Manufacturers' Association, we have found here and there an architect or contractor who has independently hit upon this idea and used it in his locality. We have found bricklayers from Russia and Germany who say that this wall is used in certain sections of those countries to keep out the intense cold. In America the Ideal wall has been used most extensively in Phillipsburg, N. J., and in Southern California.

In Phillipsburg a great many houses have been built with 8" Ideal all-rolok walls, under the direction of Mr. Paul R. Smith, the architect for this development. You will, of course, agree that an ounce of experience is worth a pound of theory and I will read an extract from a report on these houses, made by the Structural Service Bureau of Philadelphia, who made the investigation:

"In Mr. Smith's opinion, the 8" Hollow Wall House is a very great success, and in a very short time will come into general use throughout the country for all types of houses.

"Mr. Smith (the architect) stated that the houses were not furred and insofar as they had been able to find out, there had been no moisture show through on the inside of any of the houses erected—and the age of these houses runs from a few months to one year.

"In his opinion, the brick header would not carry sufficient moisture to appear on the plaster. The mortar joint—which would carry moisture much more readily than brick, does not run all the way through.

"I had conversations," the report continues, "with bricklayers, plumbers and carpenters, and all stated that they had never heard any complaint concerning the heating, air leakage around windows, or moisture appearing on the inside wall.

"In conversation with the people living in the brick houses, and in response to definite questions, there was no complaint of either moisture or air leakage,—and in fact, all appeared very well satisfied with their occupancy in houses of this type of construction. We conclude that the eight inch Ideal wall house is very satisfactory throughout this development. Moisture does not appear to work through the walls or damage plaster or paper in spite of the fact that there is no furring."

You will agree that this is a most satisfactory record of performance.

In Los Angeles the Ideal all-rolok wall has also been tested thoroughly by practical experience. This wall has come into such wide use in that section of the country that it is now the prevailing type of masonry construction for residence in Southern California. Mr. L. S. Collins, of the Los Angeles Brick Company, stated at our convention in New York City that at the time he left Los Angeles they had just passed through the first week of their rainy season and the rain had been very continuous and very heavy.

He had been at pains to call up a number of people living in Ideal wall homes and without exception all reported that no sign of moisture had made its appearance on the inside of the walls, and in every one of these houses the plaster was applied directly to the brick, without the use of furring.

The test that you have seen shows that the eight inch Ideal wall is strong enough and the testimony from Phillipsburg and California shows that this wall makes in practice a dry, comfortable home.

We cannot offer, as yet, any exact data regarding the exact fire-resistive qualities of the Ideal wall. The Ideal wall panels have not as yet been tested, but I invite your attention to the fact that Ideal walls are built with solid units of brick and the cavities are formed by these units, not tied together rigidly at the corners but separated by a mortar joint, thus allowing the surface exposed to the fire to expand and contract without danger of rupturing or damaging the material of which the wall is built. In view of the brilliant way in which the solid wall came through the fire test, I feel sure that Ideal walls will be equally successful.

The eight inch Ideal wall is at present permitted under the building codes of Los Angeles, Worcester and Phillipsburg, N. J.; and Philadelphia, Wilkes Barre, Roanoke, Chicago and other cities are now considering admitting the Ideal wall into their codes.

Wherever hollow materials or hollow blocks are permitted, Ideal walls should also be permitted.

After all the tests have been completed the field of usefulness and economy of Ideal construction may be greatly extended.

We state in our literature that a bricklayer can lay more square feet of Ideal wall per day than of solid wall. Mr. Knickerbacker Boyd states that the comparative time of laying the fire test panels, which were about 16 feet long, 11 feet high and eight inches thick, was as follows: Solid wall, bricklayer's time, 16 hours; Ideal wall, 13 hours. Remember, too, that the bricklayer was unfamiliar with Ideal construction, while he had been laying brick in solid walls all his life. Mr. R. P. Stoddard, Secretary of our Association, recently met a mason contractor who built a home for himself with Ideal walls, and had no difficulty in laying 1,500 bricks per day.

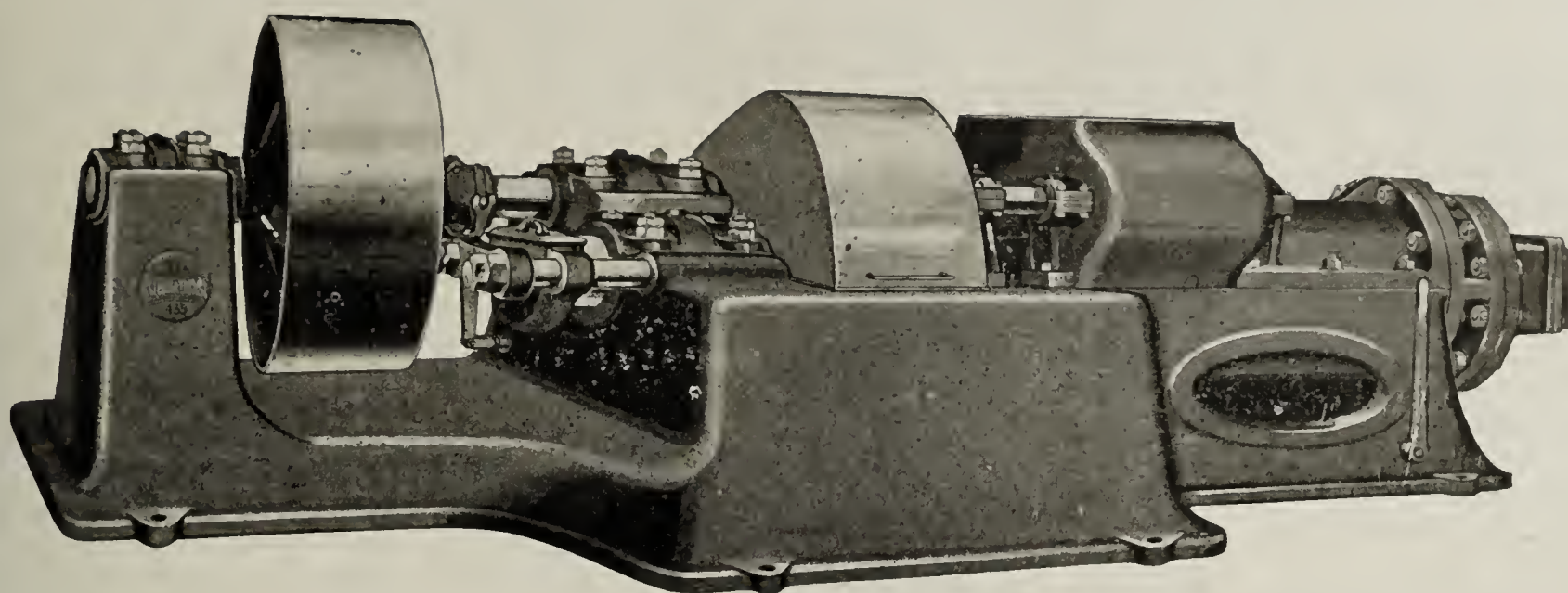
The 8" Ideal all-rolok wall requires 9 brick per square foot as against about 12½ for the solid wall and weighs about 50 lbs. per sq. ft. as against 79 lbs. for the solid wall.

The 12" Ideal all-rolok wall requires from 13¼ to 14¼ brick per sq. ft. as against 19½ for the solid wall, and weighs from 74 to 80 lbs. per sq. ft. as against 115 lbs. for the solid wall.

The Ideal wall saves one-third of the brick, one-half of the mortar; saves mechanics' time, as well as furring and lath. Especially at this time, when economy and elimination of waste is in order, eight inch solid and eight inch Ideal wall should certainly be encouraged and permitted under all building codes.

I would like to say further that as a result of the most exhaustive fire tests on building columns ever made, and as a result of the splendid way in which brick came through those tests, brick manufacturers are going out more actively after fireproofing business. The tests referred to were conducted jointly by the Associated Factory Mutual Fire Insurance Companies, the National Board of Fire Underwriters and the Bureau of Standards. Eight years, from 1910 to 1918, were consumed altogether in making these tests and the report on them has just been issued. Every building commission and every architect and engineer should have a copy of this report. It is called "Fire Tests on Building Columns," and can be had for \$2.00 from either the Associated Factory Mutual Fire Insurance Companies, 31 Milk Street, Boston, Mass., or from the Underwriters' Laboratories, 207 East Ohio Street, Chicago, Ill.





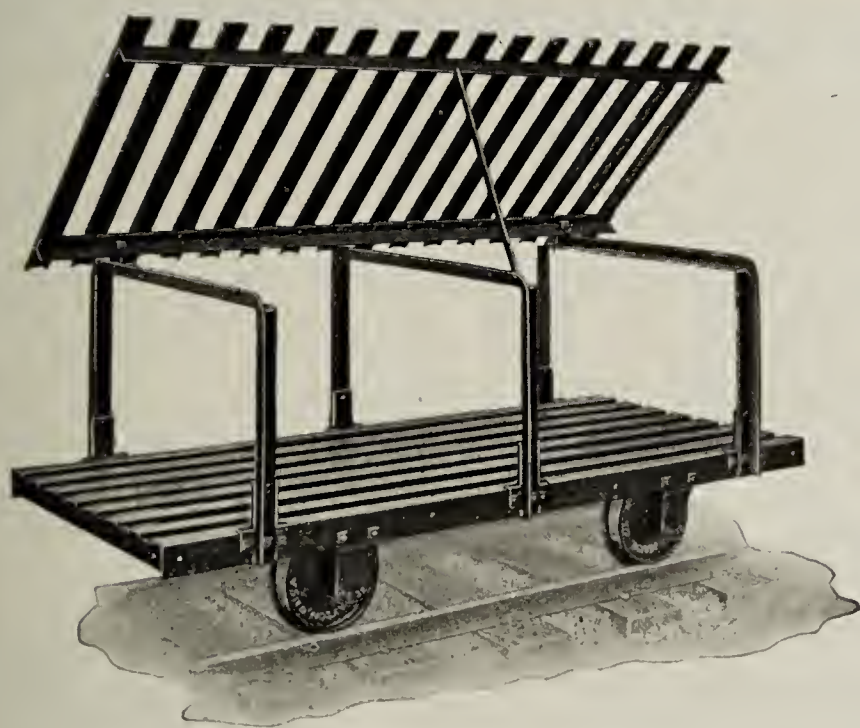
For Hollowware or Brick

Type 445—25M to 40M Brick per day

Type 435—40M to 75M Brick per day

Type 425—75M Brick per day Upward

**THREE MACHINES OF ADVANCED DESIGN  
TWO CASTINGS—TWO SHAFTS—TWO GEARS**



Type G

**Dryer Cars  
and  
Industrial Cars  
of all types.**

**A Complete Line of  
Machinery and Equipment  
for the Clay Plant.**

**International Clay Machinery Co.**

**Dayton, Ohio**

New York

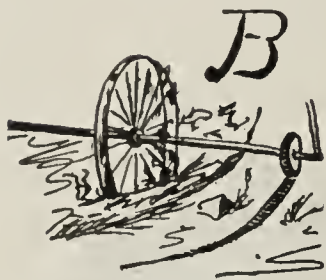
Toronto, Can.

Pittsburg



Written for THE CLAY-WORKER.

## AMONG PHILADELPHIA BRICK MEN.



**B**IG BUSINESS awaits the settlement of the labor situation and as soon as builders and building trades unions get together on the hour and wage questions work on houses and other larger structures will be started. It is generally believed that prospective builders who have plans drawn are not going to hold off the beginning of operations until the middle of the summer or early fall with hopes of still further drops in the market. Many are already impatient because of the refusal of contractors to guarantee uninterrupted construction once it is undertaken.

Approximately \$140,000,000 worth of construction is being held up in Philadelphia pending the lowering of wages and the costs of material, according to a statement just issued by the Industrial Relations Committee of the Chamber of Commerce. Coincident with that statement, the Council of Associated Building Trades made public a report addressed to the trade relations and policy committee of the Master Builders' Exchange, in which it declares the time is here when the building industry must be placed on an "efficiency basis which will induce an immediate resumption of building so vitally needed in our city."

The council reports that it is opposed to reducing wages at present, but it is of the opinion that through the co-operation of builders and the building trades, building costs can be reduced by 100 per cent. That is, instead of costing 250 per cent. of 1914 prices, the cost of a house this year would be only 150 per cent. of the prices that prevailed that year. Of interest in the same connection is a report from the Philadelphia Operative Builders, which body thinks that small dwelling houses built this spring will not cost much more than twice what they cost in 1914.

The industrial relations committee of the Chamber of Commerce makes it clear that the aforementioned \$140,000,000 of work that is being held up is not projected work, but work which has been actually financed, or for which financial arrangements have been virtually completed. The committee has asked labor leaders, makers of construction materials, builders, architects and others to indicate what sacrifices they are willing to make so that the aggregate cut in the totals can be made great enough to set in motion that \$140,000,000 worth of work.

Of that total, \$40,000,000 has been listed as private work. The other \$100,000,000 consists of city work, for which money is available and which has been held up through the high costs of all elements in the construction industry. It has

been estimated that the total amount of private work held up in April would reach \$60,000,000, and that \$15,840,000 would have been charged to labor costs.

Small dwelling houses to be constructed this spring will cost \$6,500, taking advantage of all possible cost reductions, including a cut in the wages of common labor. The same type of house was constructed in 1914 for \$3,200. Even at \$6,500, the small type dwelling house will sell at considerably less than the same house sold for in 1920 and less than its present selling price, according to charts of local builders. The 1920 figure was \$8,000 and present estimate is \$7,200. To sell at \$6,500, rates for labor will have to be reduced 25 per cent. from present schedules, it is said, and it will be necessary to obtain concessions in the prices for building materials.

News of the amalgamation of the Master Builders' Exchange and the Building Trades Employers' Association of Philadelphia consummated late in April was received by contractors in every line of building as encouraging. The officers of both organizations are to be congratulated on their broad vision in effecting the consolidation. Representing all employers in the building industry, this strong organization augurs well for harmony and efficiency in the building trades of Philadelphia.

Makers of brick and other clay products in the Philadelphia district, with the exception of a few who are supplying public utilities, report dull business. Some yards are not running, others are retaining a few workers. A remarkable circumstance is the cheerfulness of those in the industry. They may not have been worse affected by the lull in business and building than some in other industries, but it is certain that they are less depressed. Common brick sells for \$20 a thousand; last year it was \$25.

The Philadelphia Brick Company is running on full time, orders placed last year. These orders will be completed soon, the company states, but by that time it expects building to pick up. The North Philadelphia Brick Company is not manufacturing but is preparing to begin production after the expected spurt this month or early in June.

The Hydraulic Press Brick Company depends directly upon building operations and until construction begins it will be inactive. Good orders for hollow tile are reported by the National Fire Proofing Company in its Baltimore and southern New Jersey territory where labor has agreed to a wage rate until the close of the year. This product, moreover, sells 40 per cent. cheaper than in 1920. Philadelphia business is improving, the company says. J. J. Fitzgerald & Co. reports a quiet sewer pipe market with promise of improvement within a month or two.

Assurance has come to the brick machine builders since the first of April. Chambers Bros. sold 30 per cent. less ma-

(Continued on page 606.)



No. 913  
Double Truck Electric Transfer Car.

## ATLAS COST-REDUCING EQUIPMENT

Electric Transfer Cars  
Rocker Dump and Gable Bottom Cars  
Storage Battery Locomotives

Electric Trucks and Tractors  
Tunnel Kiln Cars

Let us solve your haulage problems.



No. 217-EH  
Large Capacity  
Electric Side Dump Car.

### The Atlas Car and Manufacturing Company

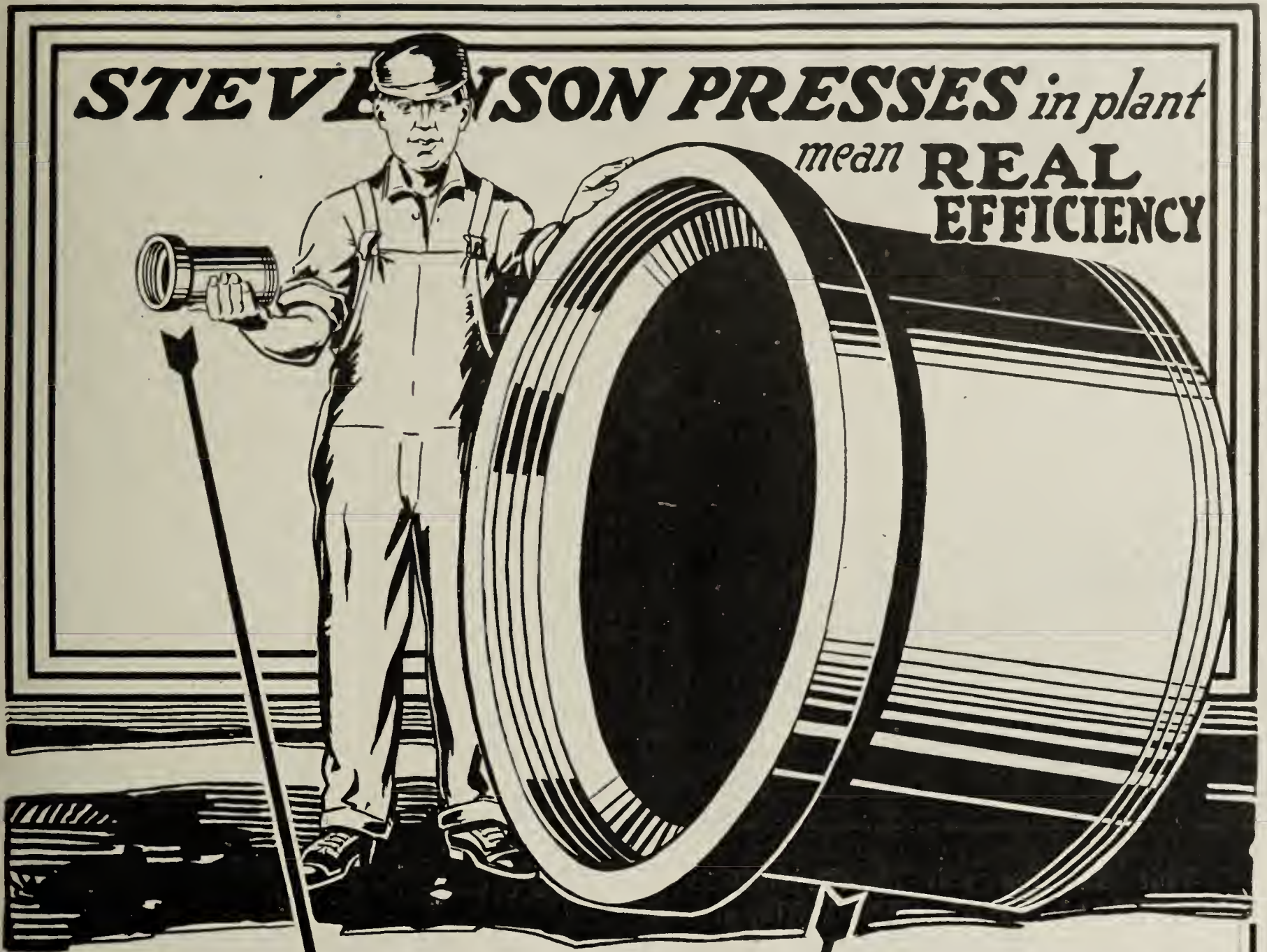
Engineers

Cleveland, Ohio

Manufacturers

Mention THE CLAY-WORKER.





3" Green Sizes To 42"

RANGE OF SOCKET PIPE  
MADE ON

## STEVENSON PRESSES

MANUFACTURING SPECIALISTS—

DRY PANS  
WET PANS  
ROLL CRUSHERS  
ELEVATORS

SEWER PIPE PRESSES  
TILE PRESSES  
PIPE TURNERS  
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Bulletins on request.

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GENERAL OFFICES  
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Wellsville - - Ohio

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## Even Low Priced Labor Can't Compete With The One Man Excavator

Designed for the plant with a daily capacity of from 25,000 to 100,000 Brick Daily.



This machine will handle MORE MATERIAL THAN TEN MEN, at a daily cost NOT EXCEEDING NINE DOLLARS for labor, fuel, and oil.

One man operation.

Low first cost and upkeep.

Gasoline or electrically operated.

Digs in any kind of weather.

Will easily pay for itself in a short time.

Especially designed for use in pits where the output is not large enough to warrant heavy, high priced and expensive steam or cableway equipment.

NO MATTER HOW SMALL YOUR REQUIREMENTS, let us show you that you NEED, and SHOULD INSTALL, this economical, cost cutting and profit doubling machinery.

Write for details today.

### BAY CITY DREDGE WORKS

2611 Center Ave.

BAY CITY, MICH.

## AMONG PHILADELPHIA BRICK MEN.

(Continued from page 604)

chines the first three months of 1921 than in a corresponding period in 1920, but recently sales have increased. Prices of these machines have been reduced 10-15 per cent. The Philadelphia Brick Machine Company, likewise, observes no improvement in sales.

Brick and tile construction is progressing this month regardless of labor set-backs. The National Construction Company, of Philadelphia, is about to begin laying an additional section to the sewer system of Pottstown, Pa., for which its bid was \$43,299. William Steele & Sons have been awarded the contract for a large brick moving picture theatre, 101x155; the J. Hyman Company will build a \$27,000 two-story brick apartment house and Jacob G. Loux a \$26,000 brick building for store-owners in Germantown.

New construction for May includes two brick theatres, eight brick stores, and any number of brick dwellings and garages. The Newport Engineering and Construction Company has a contract to build a \$155,800 warehouse for the Quartermaster's Department. Among jobs for which plans are out is one calling for 14 brick residences.

Plans are being drawn for a \$200,000 brick theatre and office building in Pottstown and brick theatres are being planned for Newberry, Muncy and Palmerton. In Scranton a high school to cost \$600,000 is being planned. The building will be three stories high, of brick and tile, and will have 52 rooms, including a gymnasium, auditorium and cafeteria.

An \$84,077 brick addition to the high school at Sunbury, Pa., is being built by C. W. Strayer, of Harrisburg, Pa., and a \$155,000 bank of brick and granite in Trenton, N. J., is being built by J. H. Morris & Co., of Trenton. Building operations across the Delaware River in New Jersey are beginning in earnest this month and on such a scale that both makers of clay products and builders will soon be occupied with problems of production as they have until recently been with the business of keeping busy.

—A QUAKER.

## THE OIL INDUSTRY AND BRICK.

You may not at first thought be able to see any definite connection between the oil industry and its development and the volume of brick trade. If you will look around you, however, and take note of the fact that most of the new gas filling stations are built of brick, then follow up to the source of supply and see the brick and other clay products used in constructing refining plants, then it will begin to dawn upon you that progress in the oil industry, like progress in any other industry, has a direct bearing in the quantity of brick likely to be required. These new and rapidly developing industries—like oil and the automotive industries—not only create a demand for clay products within themselves, but they also create a demand for homes and home building for their employees, all of which means good business and good progress.

## THE HOOVER INVESTIGATORS.

There is a Hoover investigating committee which is not in any way a governmental affair. It is a committee of engineers of the Federated American Engineering Societies and its purpose is to investigate industries and make a survey of conditions in the hope of finding where there is waste and opening the way to correct it. This committee which is already actively at work is composed of J. Park Channing; L. W. Wallace, of New York; L. P. Alford, New York; George D. Babcock, Peoria, Ill.; F. G. Coburn; Morris L. Cooke, Philadelphia; Harrington Emerson, New York; Ira N. Hollis; W. M. Hunt, Washington, D. C.; C. E. Knoeppel, New York; Robert Linton, Butte, Mont.; Fred J. Miller, New York; H. V. R. Screel Passaic, N. J.; J. H. Williams, Philadelphia, Pa.; Robert B. Wolf, New York; W. R. Bassett, New York, and Sanford E. Thompson, Boston.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

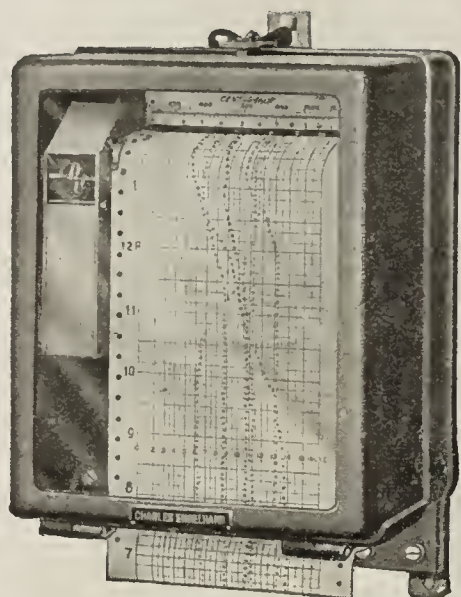
For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

# THE MANUFACTURERS EQUIPMENT CO.

## DAYTON, OHIO, U. S. A.





Engelhard Multiple Recorder.

## THE ENGELHARD- A MULTIPLE RECORDER THAT RECORDS.

### A NOT GUM UP

The inking device is so arranged that the ink never comes in contact with the pointer. The chart paper is always between it and the ink roll.

### UNFAILING INK SUPPLY

Fifteen minutes attention four times a year will keep the inking device in good condition.

### LIGHT LOAD ON CLOCK

All the clock has to do is move the chart and operate a small contact switch. The heavy work of recording and switching from one thermo-couple to another is done by electricity.

### POINTER CANNOT STICK

Our frictionless double suspended construction of the moving system insures this. It is standard in all Engelhard Instruments.

ENGELHARD PYROMETERS ARE GOOD  
PYROMETERS TO STANDARDIZE ON.

**CHARLES ENGELHARD, Inc.**

30 Church Street, New York City.

Written for THE CLAY-WORKER.

#### NEW ENGLAND NEWS.

THE HERE is not much change in the situation in and around Boston. One thing that is bright, is the inactivity which has characterized this vicinity, has begun to right itself. With few exceptions, the industrial centers have felt the effects of this stagnation. The present trouble lays mostly with the men who refuse to accept the proposed reduction in wages, this reduction in many cases amounting to twenty per cent.

The indications point to a settlement of the difficulties. The State Board of Conciliation and Arbitration made a proposal to the Building Trades Council which was accepted. During the time the differences are being arbitrated, the men will return to work at a wage of \$1.00 per hour, which is their demands. Nearly 20,000 men have been affected by this tie-up.

The open shop movement seems to be gathering momentum around Boston and in its vicinity. This is the outcome of the controversy that has been waged between the employers and union workers. This wrangling back and forth has been going on for the last six months more or less. Dissatisfaction has been increasing rather than diminishing. The Chamber of Commerce placed the inactivity in building to the labor waste, due to union working rules and conditions, high costs of building materials and the inefficiency of labor. The outcome of the decision of the State Board is awaited with interest.

There has been a decrease noted in the prices of building materials during the past two or three weeks in and around Boston. North River brick are selling at \$24.00 delivered. The previous figures were around \$26.00 delivered. Brick from Connecticut are selling at their same level of \$27.00. Face brick are firm at former quotations. Hollow tile shows no change and remains at the former prices. Wall coping shows a discount from list prices amounting to twenty-five per cent.

From Worcester, Mass., comes the report that the Building Employers' Association has offered to its striking employees a reduction of fifteen per cent. and not twenty per cent. as first considered. The men have been on strike for a period of five weeks. The new offer has been taken into consideration by the strikers. In Bridgeport an Arbitration Board on the wage question has decided that \$1.00 per hour should be the rate paid the bricklayers, masons and tile layers. There is a provision made, however, that a reduction in living costs will call for a reconsideration of the wage scale. The new wage schedule that is now effective in Fitchburg, Mass., shows a reduction of twenty per cent. for brick layers and masons. The former price paid was \$1.12½ per hour. The new schedule calls for 90 cents per hour. The other crafts have been cut in proportion. The unions are acting on this reduction at meeting as their dates fall due.

Extensive improvements are being made in the yard of the Sponzo Brick Company at Hartford, Conn. This yard has been known until recently as the Nevels Brickyard. The improvements being made are new sheds over the kilns and the installation of a new 100 H. P. engine, to operate the machinery. A new cable system is also being installed to handle the brick. This plant has a yearly output of nearly 5,000,000 brick.

In the neighborhood of Berlin, Conn., really the brick manufacturing center of the state, the brick plants are deferring in their resumption of operations, due to the large amount of brick on hand. The demand being slight, the operators think the method the best.

Some of the plants in this section are in operation and others are to start soon. One of the best equipped plants in this territory has its sheds full to overflowing and has set no date when it will resume operation. The yards under the direction of the Eastern Brick Company are expected to start operating at an early date.

—N. EAST.





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To get out your raw material, you must have a machine that you can depend on. You want the steam shovel that will give steadiest service in stiff clay or hard shale—and with the least cost.

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You can lose nothing in trying out my system, as it requires no altering of arches and can be taken down and set up again in 15 minutes. It does away forever with the forced sale of culls for top prices.

Write at once for particulars.

Patent applied for.

**FRED GLECKLER**

**Oak Harbor**

**Ohio**

## PACIFIC COAST NEWS.



to assume large proportions.

RICK AND CLAY products manufacturers in California are preparing to make known to the people of the state the vastness of their enterprise through publicity and the business interests in general especially in the southern part of the state in the vicinity of Los Angeles are taking notice of the importance to the commonwealth of this industry which is beginning to assume large proportions.

With the brick men chock full of optimism for the immediate future and a large potential market close at hand looming for the clay products manufacturers, the daily press is giving considerable publicity to new ventures in the industry and stocks are being sold easily in the local field by several new enterprises.

Los Angeles rumors have it that a large manufacturing concern will soon be launched there to make bathtubs and other sanitary ware and that the clay deposits of Riverside county will be utilized.

The Whiting-Mead concern will build soon a large plant adjoining their present structure at Navy and East Ninth streets, Los Angeles, according to announcement of officials. The new factory will also house the Kirk Potteries which plan to move from the East it is said.

Complete motorization of the Tropico Potteries plant at Glendale, near Los Angeles, is being effected and will double the plant's capacity and at the same time save about \$1,000 a month in operating expenses, estimates F. B. Ortman, manager. When completed electricity will be used instead of steam for the grinding and preparing of all clays, manufacturing sewer pipe, water pipe, flue lining, tile and chimney pipe as well as for operation of the presses, driers, elevators and machine shop.

The terra cotta output at this plant will be increased four-fold, it is thought by the management, through installation of a humidity drier which will soon be accomplished. Hot air driers have recently been installed in the press rooms also and only half the number of moulds per man are used compared to former operation. Larger offices are also being made ready on the grounds.

In addition to the improvements mentioned plans of a varied nature are afoot to make this concern second to none in the country. The new vice-president and general manager of the concern is F. B. Ortman, formerly general manager of the Northwestern Terra Cotta Co., Chicago. He has brought his family to Los Angeles. The company was put in touch with Mr. Ortman through Prof. A. S. Watts of the department of ceramic engineering, Ohio State University, and Prof. A. V. Bleininger, chief ceramist for the Homer Laughlin China Co., East Liverpool, O., who highly recommended Mr. Ortman.

The Tropico Potteries have been financed by a \$300,000 first mortgage 8 per cent. bond issue which is being rapidly absorbed by the public according to the local broker who floated the issue. In addition to Mr. Ortman as vice-president and general manager the reorganized concern is headed by B. M. Watkyns, president and E. M. Davids, secretary-treasurer.

Climatic conditions were responsible for the decision to locate the Homer Knowles Pottery plant in Santa Clara, declared Homer Knowles in an interview here recently. "Increased efficiency of workmen is engendered by the climate which makes it a joy to live in the Santa Clara valley," he said. The first unit is to consist of five kilns and the first all on one floor except a second story over the mould shop, which is to be 40 by 50 feet. Ground was broken for the first building April 20.

The Pacific Clay Products Co., of Los Angeles, has recently issued and distributed among business interests a pamphlet describing the methods of manufacturing vitrified sewer pipe. Figures showing the increased use of this product in the southern part of California are also incorporated.

Six hundred men are employed at the Lincoln plant of the Gladding McBean Co according to a company statement issued late in April in connection with unemployment statistics. During 1920 the company manufactured \$1,225,000 worth of clay products.

SUNSET.



JUN 25 1921

JUNE, 1921

# THE CLAY-WORKER



INDUSTRIAL ARTS: Specimens of Dutch Tiles of the Seventeenth Century.  
From the Collection in the Metropolitan Museum of Arts. See page 657.

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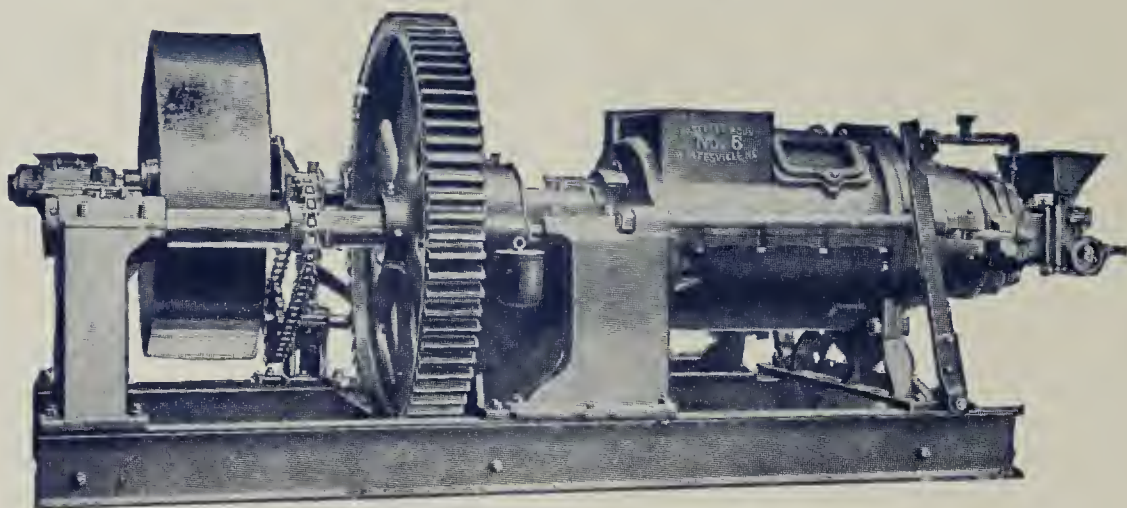
BUYERS' READY REFERENCE LIST  
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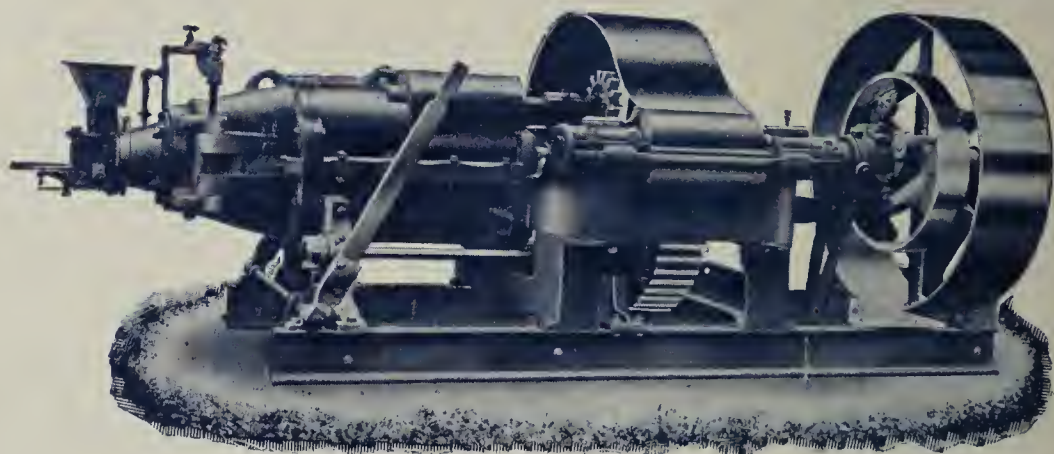
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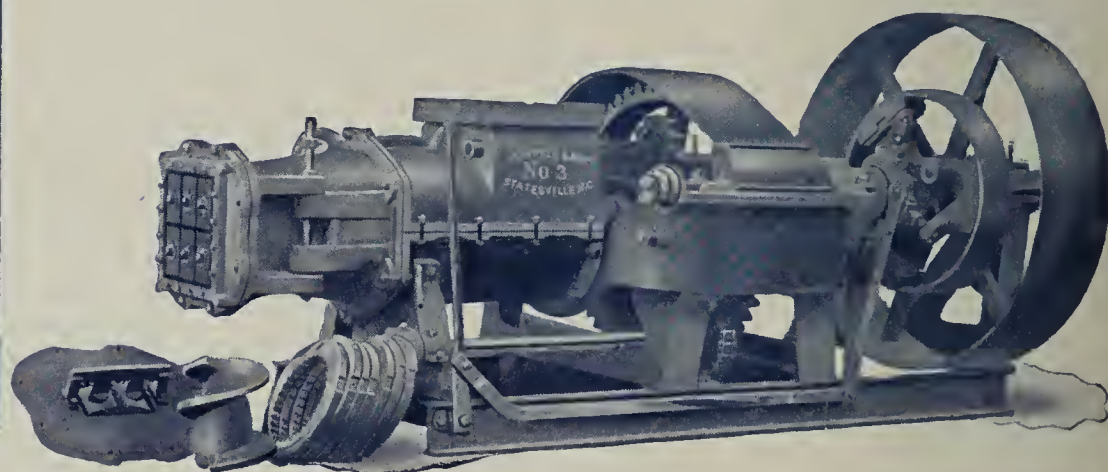


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THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 75

INDIANAPOLIS, JUNE, 1921.

No. 7

# INDUSTRIAL ARTS: A Peace Emergency: Suggestions for the Improvement of All Industrial Products by the Perfection of Design and the Study of Works of Art, Ancient and Modern, on Display at the Metropolitan Museum of Arts, New York City, and Other Great Institutions of That Character.

WE SPEAK OF MORALE in the open fighting field, we count upon the morale of those at home in the service of production and supply, yet we have never realized that this term must be applied to every line of effort that engages our minds and hands if the national cause is to be served—even to the arts of peace upon which the country must so largely depend in regaining its equilibrium and normal course of life now that the job over there is done. Have we ever considered the meaning of morale in the fine arts? In the maintenance of the fabric of national art impulse, in satisfaction, poise and peace of mind, the industrial arts serve among the greatest agencies of national progress; theirs is a serious undertaking, to maintain morale in the face of almost impossible conditions, not only as to labor and materials, but as to design and taste.

For the first time, during the war, the industrial arts manufacturing fields clearly saw that their own shortsightedness had brought them a most serious handicap. The machine had faithfully served them for many years, so faithfully indeed

had it wrought their many forms and weaves that its owners had all but forgotten that the mechanism had no thoughts of its own. The war isolated the United States and we counted among our resources machines galore, fine raw ma-

terials, excellent technical ability, but no designers and inadequate schools to produce others to make good the shortage due to the occupation of Europeans in duties of belligerency. True values thus demonstrated the real position of the machine, not as a thinking automaton, but as a glorified tool which might be misused as readily as correctly applied. Manufacturers who had long had ugly presentiments as to what might happen if their industries should ever be isolated from European sources of supply as to design and taste, saw that the day had come too soon. They had never advanced any educational propaganda, they had helped to found no schools, they had seen for many years only the advan-

tages of the present, they had not built for the future of American industrial art. While an American harvesting ma-

\*From the Bulletin of The Metropolitan Museum of Art.



—Courtesy Metropolitan Museum of Art.

Example of Seventeenth Century English Pottery.



chine was a prize for the European, an American industrial art object, with few exceptions, remained little more than a near-barbaric curiosity.

But even yet the industrial arts manufacturers, the furniture and furnishing producers, have not made direct and general use of some of the most obvious and most immediately available advantages that could be offered to any branch of production. To be sure they have their problems of obtaining material, of holding labor to turn this over into executed pieces and, just now, chiefly of persuading middlemen to buy. But what has the manufacturer done in the field of design? Has he reached out for every possible avenue of assistance in the most important field of all namely, that of improving the appearance and appeal of his pieces so that he may aid in building up the cultural standard of the nation? What

to provide or make accessible the fine examples of the craftsmanship of other days. Now is his time to begin in a thorough-going way to make himself acquainted with the contents of these great galleries, with the finely organized resources for study—golden opportunities for his designers. There is but one demand upon his time; that of going to the museum; books he may have in his own office library, but the great collections of originals from which to inspire and model, offer the resources of contour, color and depth which the finest engraving and measured drawing can but remotely suggest.

We can only repeat, there is nothing highfalutin about a museum. There is nothing difficult or far-fetched about an exhibition of originals. To be sure, they cannot be handled, they are housed in a splendid architectural monument worthy



—Courtesy Metropolitan Museum of Art.

Rare Samples of Japanese Tea Jars of the Seventeenth and Eighteenth Centuries.

has he done to improve the calibre of his designers? Has he considered the value of the possible trade mark: **Designed and made in the United States?** And finally, in the absence of schools for craftsmen—the woeful lack of which the war so plainly showed—has he made the museum collections in our great cities a part of his working plant? Has he ever calculated the asset value of the Metropolitan Museum of Art of New York City as an inspiration, as a source of information for design and actual models, as a center for study and research, in short, as an out-and-out working laboratory? It is safe to say that such a conception of the museum's function is a novel one from the average manufacturer's point of view. Now is the time for him to discover what the great collections throughout the country have to offer, what extensive arrangements have been made in the large museum

of them, they must be under guard, and they must be perhaps in a structure located in a public park requiring a ten minute trolley ride. But does all this mean that their great value must be ignored? Glass cases and guardians are unfortunate necessities, but so are the locks on our doors, safeguards to guarantee the continued value of objects within. It is the duty of all concerned with the industrial arts, but especially of those engaged in their manufacture and sale, to acquaint themselves with and make constant use of every facility which may improve American design, and the museum collection is the foremost of these facilities at the present time. Furthermore, the museum is bound to remain the foremost of these facilities for the reason that without its resources even the schools cannot perform.

Hitherto manufacturers have rarely seen the value of taste



as an asset; they have regarded their factory merely as a business venture, not as a workbench of national taste. They have not realized that every chair or lighting fixture or tile or yard of goods is a factor in the great mosaic of national culture in the industrial arts. The museum stands ready to help them to a better understanding, not as a patron, not as a big brother, but as a partner in progress. Splendid things have been brought together and made available, lending collections have been prepared, photographs are available, large access may be had to the finest facilities in the way of fundamental inspiration and sympathetic help that ever have been extended to craftsmen and designers and manufacturers. These resources are ready to use, there is no red tape, there is no air of "institutionalism" and awe; there is only the desire to co-operate, to help, for the museum cherishes the highest ideals for the advance of American design. The museum maintains that "good enough" is no slogan for American manufacturers in the industrial arts. The museum maintains that **Made in America** is inadequate on an object of furniture or furnishings unless it also connotes **designed by an American-trained artist**. Above all, the museum has watched the growth of public taste among us, it has seen this taste gradually gain headway and outstrip the design quality of the manufacturer's output, and it has seen many a manufacturer make the discovery that what is easiest to get is not the best.

What will the manufacturer do to assure the progress of America along steady lines of cultural growth? Will he persist in the all-for-business course of quick turnover, or will he bend every effort to achieve the finest design the world has ever seen, because for America only the best is good enough. Like many others whom the course of events has taken aback, the manufacturers had learned that preparedness is the longest word in the dictionary, but it is not too late for him to make a bold effort to profit by the present situation of the United States in the industrial arts. A direct aid is offered him in the Metropolitan Museum. An immediate effort can be and surely must be made to establish Americanism in design, to achieve that new craftsmanship which shall form part of the cultural heritage of the United States. There is no time like the present to take stock of facilities to hand.

#### HOW TO DISTRIBUTE OVERHEAD.

THE CHAMBER OF COMMERCE of the United States has been wrestling with the problem of how to distribute overhead expenses in good times and in bad times. It is this overhead that is not only a burden in the matter of labor and machine cost, but it is a burdensome thing in the mind of cost accountants because it refuses to behave and to follow positively any rules laid down for it. There are so many different ideas and plans being offered on this point now that the cost experts are figuratively up in the air and the average man doesn't know what to do.

The experts of the Chamber of Commerce have diagnosed the trouble as being from lack of flexibility in our cost systems. We spread the cost out too thin in times of unusual activity, and mass them up too heavily during periods of slow business in the effort to keep our cost figures exact. Then every time business conditions and plant activity changes the cost system has to be changed, too.

The solution offered is that of taking an average or normal year as a basis for overhead distribution and use this through fat and lean years, alike. Presumably the surplus accumulated through fat years will be set up to take care of some of the loss incident to lean years and this will certainly help some. Anyway, while it may not be perfect, it sounds like something substantial to tie to and for that reason is worth trying out.

## BUTTON-HOLE TALKS.

### Shadows.

THE one real, constant companion you have in life, Gates, and the one that is reliable and ever attendant, is your shadow. Possibly you haven't thought much of it but the subject is worthy of real consideration. Your shadow is your real, personal, unremitting attendant, from your cradle to your grave. Through all the days of your youth and early manhood it follows you, follows always, closely and persistently. You can not escape it however you may speed. It is intangible and evasive but always there. It is your own personal belonging and has nothing to do with any other personality and wherever you go and whatever you do it accompanies you and is with you. It is no respecter of National boundaries and when you go abroad it is the only possession of yours that passes the customs officer unquestioned and unexamined. It is, however, a fair weather friend and only stays by you in sunshine, deserting you absolutely in cloud and storm, and leaving you to then fight your fight alone. It is your own personal shadow and differs from all other shadows in having of your own personality and never is lost or mixed up. It joys with you in the sunshine but when the storm clouds come it shows its cowardice by fleeing and hiding as do your other fair weather friends. But it is your own shadow and you can control it, you can lead it where you will



and it has to follow you and is powerless to resist or hinder you. You can take it into good companionship or bad just as you yourself choose, so that it has absolutely no power of association except as you direct or lead. In your childhood it is as merry and active as you yourself and imitates you closely, doing the things you do, running the races that you run, playing the pranks that you play, starting when you start and stopping when you stop. There has, however, been an absolute change with you, in your relations with your shadow. You have passed the midway, the point up to which your shadow followed you and led you. From that point on, for the rest of your life, your shadow will precede you, will lead you, you will follow it. You will look into and not away from your shadow. All the mists and mysteries of the future will lie in the shadow. Blindly, gropingly and yet trustfully, you will follow it. Life itself is a great mystery, all shadowy and misty. As a babe you came from its misty shadows and in death you will go into the magain. Scheme as you may about them you but end in the shadow, the shadow of the great mystery and the one you cannot solve. As a babe, you came trustingly, confidingly, helplessly, and when you go at last into the shadow, the shadow of death, you must go in the same manner. Life is the light and death is the shadow. The day is life and the night is death. For the day, action, effort, hustle, accomplishment. For the night, relaxation, rest, the oblivion of sleep. So life is symbolized by the day and death by the night, and dying is but sleeping. You go to your sleep, happy and content, glad of the rest, and you should go to your death just as content and happy.—Gates.



# How England is Solving the Labor and Housing Problems

## The Ill Effects of Radical Unionism and How the Builders Achieve Almost a Miracle Through a Guild Which Has Tackled the Housing Problem.

IT IS not only trouble which comes to the earnest, honest working man through following some of the radical ideas of labor union leaders, but there is a form of trouble which persistently comes to the building material industries when it hooks up with unionism, and that is one of the things which should have thoughtful consideration right now.

In New York City and again in Chicago when there was indictment following investigation of the building and building material industries the reports indicated in the main that part if not a big part of the trouble came from agreements between dealers and contractors with labor unions. The results show plainly that the hook-up with labor unions has led to trouble.

It is but another form of the closed shop which broad minded industrial leaders have been fighting persistently for some time. Any closed agreement is not legally objectionable, but it is morally unfair, and it tends to reduce initiative and progress.

And, while we are wrestling with these problems here, there comes from England a story of what is called the Guild spirit and its movement to put building operations under way in England. Between cumbersome governmental attempts at relieving the housing shortage and the arbitrary methods of labor unions but little progress was being made. This builders' guild in England, which is headed by a brick layer, is intended among other things to break through some of the restrictions which prevent a brick layer from hanging doors, doing carpenter work and any other skilled work than that of laying brick. This doctrine is that a man may do what needs to be done or what he is competent to do and not be hindered by any union rules or restrictions. This is regarded as something of a revolutionary movement within the working fraternity itself, and it indicates a healthy return to sane thinking, which has resulted directly from the radical extremes of unionism.

It moves one to the idea that perhaps if we let this kind of wrong doing alone long enough it will cure itself by bringing protest and reaction, but that is too slow and uncertain. It is time for both employers and employees to look this matter of unionism troubles square in the face and to shake off the radical element that causes trouble. To get rid, especially, of that element which persistently agitates and develops ill feeling between employers and employees. What we need, and should have more of, is understanding and friendly co-operation between employers and employees.

We publish in part the story regarding the Guild which was published in the Boston Evening Transcript under the head, "The Old Craft's Spirit Loosens Union Tentacles."

In a mining district just outside of Doncaster, England, in the urban District Council of Bentley, with Arksey, two houses were completed at the end of February and their two tenants moved in. They are the first two houses of 77 building there on a contract with the Builders' Guild.

There is nothing to catch the eye about them, nothing of any note to the passerby. But they are perhaps the two most important houses built in England for years—the first two completed by Building Guild labor to solve the housing question for laboring men.

By its adherents and founders the Building Guild is held to be the solution of the housing trouble, and, what is more, the cure for labor trouble due to the operation of unions as

now constituted. In the Building Guild of England all of the exasperating, stupid divisions of building labor whereby, for instance, a man who lays bricks may not even for a moment assist a worker who is hanging a door—is done away with. The head of the Building Guild is a working bricklayer in London and if the weather will not permit him the laying of bricks he turns his time to the hanging of doors, or anything else that will get on with the job! The old craft spirit has been revived! In the two houses a number of small improvements were put into the work for the mere love of it, and the work has been reported by the district surveyor as being "in every respect exceptionally good."

### A New Contentment.

This old craft spirit was, too, with a new contentment among builders, responsible for the short time occupied in completing the structures. The contract was signed November 5 and was therefore current less than four months. It has not been uncommon in England for twice as many months or more to elapse before a house was started.

This new contentment which underlies craft spirit is due to the abolishment by the Guild methods of one of the most rasping previous conditions of builders' work—not the work of contracting builders, but of the actual hand builders—the uncertainty of employment owing to weather or any other condition interrupting labor. This contentment is achieved by guaranteeing the weekly wage to each laborer during the continuance of the job, a special sum for this purpose under the heading of "continuous pay" being inserted in the bill of costs.

The contentment coming from this invention has been found in operation to be a far finer spur to action than the old idea of "fear" of losing a job. The result of this contentment is a greater output than the old way by a decided percentage to the good.

### Continuous Work.

This guarantee of work and pay sprang naturally from the basic principle put forth by the founders of the Guild—"to build for service and not for profit." As an illustration of that difference the case of Heywood, Lancashire, is illuminating. The Guild tender was £26,000 below that of Heywood builders and £16,000 less than another tender! This "service" stands out sharply in the Guild work at Bentley, to take another example where—in regard to a single house—"the actual cost of the Guild work up to February 28 last, was £342. Our estimate, based, as always, on the bill of quantities, was for £427, we made a saving of £85—certainly a considerable saving on £427." What must have been paid unnecessarily on the 96 per cent of all working class homes in the kingdom, provided by private enterprise?

### A \$3,800 House.

The two "non-parlor" houses supply their most striking feature in their cost. They have been completed for £1,520 or £760 each. This includes the Guild percentage and the charge for continuous pay and represents a saving in the private builders' prices of at least £200 per house.

### Opposition by Old Builders.

The Guild is already at work in many parts of England and the movement is spreading rapidly, not only because of the saving of money, but for the more rare experience of



building without the squabbles and disagreements that often follow building under the exasperating rules of the unions. Naturally an immense opposition has been brought into being against the Guilds, an opposition led and invented by the Federation of British Industries.

It has had a partial assistance in the Ministry of Health and the Housing Commission. Dr. Addison, the head of this ministry, admits the Guild is building to the entire satisfaction of local authorities, though he has only sanctioned a limited number as an experiment.

#### Will Build Public Buildings.

The Building Guild is extending its work beyond house-building. All local guilds are now insisting on taking on every class of work that would be taken on by every builder. They have made their first tender to the Office of Works for the erection of a public building. This, for them new work, will be done on their original attractive lines—cost, plus a percentage. It is this kind of a blank invoice that attracts people wanting building work done, as it shows, what is a novelty in England, the exact cost of material and labor and the rate of profit, if the Guild charges—as scheduled above—can be called profit.

That the Builders' Guild is in the nature of a revolution in this union age is clear. If it does nothing else than abolish the ridiculous barriers of labor prescribed by union methods whereby the work is dissected into minutest subdivisions in which only those can labor who have the name of that subdivision, it will be a blessing. That the short way out is sorely needed is evidenced by the experts of the Housing Department of the British government who think at least 500,000 houses should be built. Viscount Astor declares 800,000 are needed to give the working classes proper homes.

#### The Idea Spreads.

The Building Guild was not the conception of a publicist or "student of our times," it was conceived by a group of building laborers in their disgust at building conditions in England, the product partly, of a government inept in front of desperate housing conditions and partly of stupid union conditions that classified work so minutely—what one man must and must not do—the use of men unfitted for their assigned jobs, rules and regulations that killed the old crop spirit: Pull all together! As is usual with anything new the attitude of the government has been in opposition. The Guild idea was taken up with enthusiasm by the better class of builders' workmen and spread rapidly. In its fight against the ministry of health—housing department—it relies on local boards and committees already committed to banning for a time all luxury building. The Guild argument is the unanswerable one, decidedly lower price for the required job, less time in construction because of the craft spirit and guaranteed weekly wages, thereby contentment, better work than possible under the old union and contracting employers' conditions. The Guild is not sweeping away slums by paper or coping with the wants of the people with red tape.

#### FIXING THE RAILROADS.

It is plain enough from the pleas being put forth by railway authorities that the railroads of the country are in the middle of a bad fix. It is equally plain from the attitude taken by the organized labor employed in operating the railroads that they are going to have a hard time getting out of the fix they are in. Also it seems plain to the innocent bystander that both the railway managers and the railway employes are showing but little real consideration for the public at large which pays the bills. We berated the farmers for being poor sports in accepting lower prices ungracefully, but there are

others. It seems time for railway managers and railway employes to realize that the war is over and that we are getting down from the high peaks to solid ground again and that they must do their part in lower wages and lower freight rates as well as the rest of us. The employes of railroads and mines are getting returns for their effort today out of proportion to returns for equal effort in other lines of enterprise and the sooner they realize this and show a proper spirit and an inclination to balance things up the better it will be for themselves as well as the public.

### RAIL CARRIERS REFUSE TO REDUCE FREIGHT RATES ON BRICK, TILE AND OTHER CLAY PRODUCTS.

AS was fully anticipated, the Association of Railway Executives, at their meeting in Washington on June 8, absolutely refused to reduce freight rates on brick, tile and other clay building materials. The executives claim that they cannot make the reductions the brick and tile manufacturers ask for so long as there is no reduction in operating costs and insufficient increase in business to restore the proper relation of net to gross earnings.

The action of the carriers followed a series of conferences held in Washington a few days ago between the traffic executives of important rail carriers and representatives of associations and shippers interested in the movement of brick, tile, terra cotta, talc, sand, gravel and other building materials.

At these conferences the carriers were strongly urged by the representatives of the building brick and tile interests to reduce rates on these commodities by eliminating the advance of 40 cents a ton and applying the percentage of advance under ex parte 74 to the rates in force prior to general order 28.

In their statement the railroad representatives said: "The tonnage directly affected by these requests approximates 25 per cent of the total tonnage of the railways of the United States, and the carriers are asked to yield on this traffic approximately all of the increase authorized by the Interstate Commerce Commission. It cannot be overlooked that there are many articles analogous to those mentioned on which the demand and the equity of reduced rates could be equally as pressing and as great as they are with respect to the commodities mentioned; and it would be difficult, if not impossible, to prevent the inclusion of these analogous articles in any reduction of rates such as is now requested. Thus substantially more than the 25 per cent of the total tonnage of the railroads above mentioned would be either directly or indirectly involved in the requested reductions. The seriousness to the carriers of the proposal is thus evident.

"The conferences developed that, while, in the opinion of the various shippers, reductions in freight rates would stimulate the movement of these commodities, the fact remains that this is altogether conjecture, and that there is no assurance that any reduction in freight rates would substantially increase the movement of this traffic. It was admitted that reductions in the selling prices of some of the commodities mentioned far exceeding the present total freight charges had failed to create any broader markets. It was also clearly brought out that the hope of reductions in freight rates has resulted in hesitancy on the part of consumers and dealers to place orders, and because of this it was urged that the carriers promptly announce their conclusion in order that the present uncertainty may be cleared."

It is impossible to learn in Washington at this writing what is to be the next move on the part of the brick and tile shippers, but I am informed that the matter will not be allowed to rest until a decision is had from a higher source.



## MODERN BRICK MAKING IN SOUTH AMERICA.

By D. J. Reagan.

OF THE FOUR standard building materials—wood, stone, cement and brick—the last has come to be accepted through thousands of years of service for its general usefulness. Wood, when obtainable for construction, is lowest in first cost, but its inflammability from within and without makes it a precarious material. Stone, noted for its beauty, safety from fire, and permanence, is limited in its use to those localities where it is plentiful and where labor is inexpensive. Cement, when used in the form of reinforced concrete or stucco, is permanent, reasonably fireproof, and in fact, can be made quite safe when used with fire proof floors and roof. The upkeep of cement buildings is very low. But even where obtainable cement requires skilful methods in handling, which are apt to be costly.

There are few districts, however, which do not contain

or blocks, by the Chaldeans, it has been adapted to various forms for various purposes. As a building material, it has recently reached a high artistic and architectural value in the "Tapestry" and "Rug" texture bricks, of which we shall say more later.

In all probability, primeval man used surface clays shaped into blocks and hardened by the sun. Records and remains of constructions point to the use of brick by an early race of Ethiopia and by the Assyrians. Which of these two first found the advantages of this material has not been discovered. According to Sir Henry Layard "The soil used by the Assyrians was an alluvial deposit \* \* \* rich and tenacious. The builders moistened it with water, adding a little straw that it might be firmly bound together. They formed it into cubes which when dried by the heat of the sun served them as bricks."

A closer investigation may later determine which race first moulded clay into brick. However, we can trace with some definiteness developments in the manufacture and especially in the burning of brick.



Fine Brick Structure in the Botanical Gardens at Buenos Aires.

clay strata suitable for the manufacture of brick. Their portability and the easy methods of brick construction make this building material increasingly popular. The elements do not affect the well-made brick and structures of this material can be made entirely fireproof. Their cost is more than that of wood, but less than stone or reinforced concrete. Since before the time of Christ, structures of brick have been the silent monuments for all peoples of every language, and the development and quality of clay products has been marked by the advance of the races.

The fact that now after thousands of years of use, bricks are still relied upon for a simple construction of wide adaptability, for permanence and for beauty, is sufficient incentive for us to continue making better brick for a wider variety of uses. It is economically immoral to make bricks which do not last or which are unsightly. And today we have the means at hand to make better brick than was possible at any time in the past.

Since clay was first molded, probably into writing tablets

The marked achievement in the latter development has been the three stages of progress in the heat treatment of clay—(1) From the primitive sun-drying to (2) baking up to 900 centigrade to (3) the modern scientific method of burning brick up to as high a temperature as 1300 centigrade.

### Sun Drying.

The first of these three methods has been employed universally in warm climates, where mud has been moulded after a fashion and dried in the sun.

This medium was held together with difficulty long enough for the drying process until the Egyptians made a mixture of straw and mud to preserve the mass in its proper form until dried.

A recent research conducted by an American, Mr. Acheson, disclosed the fact that straw water increased the plasticity and tendency of clay. This straw water enabled the workmen to exploit the malleable quality of the clay to the greatest extent possible in view of the primitive method of mixing



them employed. Furthermore, the insoluble portion of straw afforded a non-plastic medium which permitted the brick to dry with a minimum of cracking.

This type of treatment by sun-drying effects an indefinite durability. If the climate is continually warm and without frosts or rain, sun-dried bricks have attained long periods of usefulness. But such conditions are unusual, and the time has passed when any structural material can be exposed to danger from the elements.

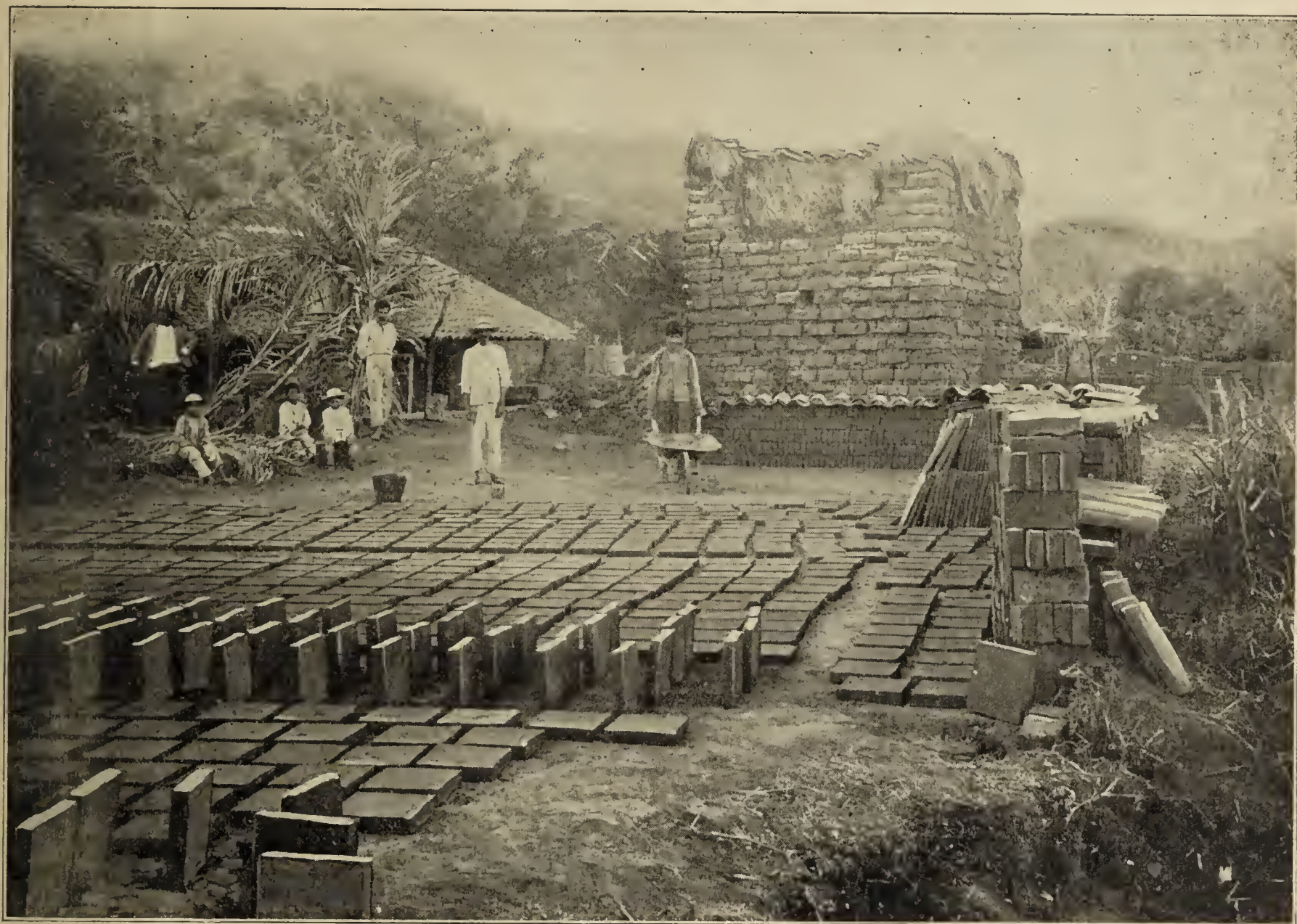
#### Baked Brick

The second type of brick developed by the Assyrians, the Greeks and the Romans was heated before an open fire or baked in a kiln, but at so low a temperature that the finished product remained soft and porous. While this style

brick, it may be well to understand thoroughly just what features identify it as a modern product.

The common conception of brick is that it is made up of a mixture of which clay is the important ingredient. Its shape may vary from the large size mentioned above to bricks which are smaller even than the standard size used in America which is 8 in. by 2½ in. This size has been found by tests and by practical use to be the most readily handled in manufacture, shipping and laying.

When moulded and dried, these bricks are then placed in a kiln and heated until they become vitrified and attain greater strength and hardness. The extent of these changes depends upon the nature and condition of the material employed, and upon the intensity of the heat applied. Further-



Glimpse of a Typical Brickyard, Salvador, Central America.

of brick was easy to lay, it cannot be called desirable, as it is also affected by the elements. It commended itself, however, for such use as "backing up" when it lent strength to a structure as in the case of St. Mark's Cathedral, where such bricks were used to back up the stone facing.

The traces of Roman baked brick still remain in Great Britain (from 55 B. C.). Their size is 12 by 6 in. by 1½ in. Manufacture of such brick is still carried on both in Europe and America, but is constantly giving way to the third type of burned brick, employed in modern brick manufacturing. The great progress in this method and its achievements for making a more durable product will be discussed at the proper place in this study.

Before taking up the processes in the making of modern

more, different effects frequently occur within the same kiln.

In the process of manufacture the clay brick's proportions, its physical, and its chemical properties are altered. When moulded it is soft, putty-like, and heavy; when dried it loses weight, decreases in size through evaporation of water; in the heated kiln, a further loss of water weight occurs. At a dull red temperature certain materials are decomposed, and the material becomes denser, harder and stronger. In the drying alone the shrinkage amounts to ten per cent; in the burning almost five per cent more, depending upon the percentages of the original constituents.

#### Modern Brickmaking.

In the burning, fusion will occur in some of the constituents if the heat is sufficiently increased. The fluid or



semi-fluid fused material will flow among the minute spaces between the infusible materials and weld the brick into a block of great strength. For certain engineering purposes this process of fusion is carried to a high degree in order to obtain bricks of extraordinary strength. In the same process a partial state of vitrification is also obtained.

The so-called "hard burned" brick are dense, hard, and of low porosity. In treating them, there is danger of excessive fusion which will result in distortion or warping at a bright red heat.

There are some clays—fire clay, for instance—which when subjected even to high temperatures, do not become vitrified but remain porous, non-fused and light. On the other hand, however, there are some which fuse and become fully vitrified at a comparatively low temperature.

#### The Composition of Brick Clays.

While burning and improved methods of manufacturing have developed the natural advantages and to some extent offset the defects of the clay used, too much stress cannot be laid upon the necessity of having the right clay to work with.

The proper selection of the clay is dependent on a thorough knowledge of its ingredients, or at least its physical properties, its plasticity, its variability, how easily it is worked, at what point it fuses, whether it is porous or non-porous, whether it burns hard, and, of course, the amount of material available, before a plant is constructed or extended.

A chemical analysis may be a guide in the situation, but this is more valuable later for refining the product. Very frequently, the natural physical properties of the clay, if at all adaptable, can be exploited to produce brick of individual character.

In general, it may be said that if the clay is plastic enough, it can be used. This is a general indication that the required materials are present in approximately the required amount.

So called "pure" clays contain an excessive amount of water; their shrinkage in drying and burning is too great and this results in cracking. They lack certain materials and are in themselves too valuable for other purposes to be used for brick.

The best clay for brick making is higher in silica than in pure clay. This reduces the plasticity of the composition to a proper proportion which allows for drying without cracking. At least fifty per cent of the composition should be pure clay, the rest mainly siliceous matter, so that the final analysis will contain not less than twenty per cent. alumina, nor more than seventy-five per cent silica.

A satisfactory clay will be gathered naturally from one or two sources (1) from an open pit or the surface; (2) from underground mines.

The first process involved:

1. Stripping the non-workable surface material from the clay proper.

2. The gathering.

The stripping operation may be:

1. By hand labor with pick, shovel, and wheelbarrow.
2. By plow and scraper.
3. By steam shovel.
4. By hydraulic washing.

The ideal method for each situation depends upon the amount and character of the materials to be removed and the distance it must be carried to the dump.

The hand method may only be used with any satisfaction where the stripping is very light. A man will shovel and wheel fifteen to twenty yards a day for a short distance. The labor plus the cost for plowing and stripping will make the method prohibitive where there is much cover material.

Carting is economical for distances greater than several hundred feet and where grades are not involved. Scraping is usually effective and economical. Steam shovel costs can be kept to 5 to 8 cents per yard, where the production exceeds thirty to forty thousand brick per day. Hydraulic stripping is often as low as 2 cents per yard.

It is not necessary to detail the methods used where underground mining is required. The important things are the same as in other mining; competent mining engineers, proper drainage, good air, straight haulage, entries with good tracks, low grades, modern drilling, shooting and loading, and hauling methods. Initial expenditures to put the mine in the best working condition, will go far to keeping down expenses due to bad roof, slow work in narrow rooms, bad tracks, etc.

#### Treatment of the Clay

Some clays are gathered in a state which does not permit immediate working. By weathering such material, that is,



Community House in Mexico City.

by the decomposition of much organic matter present, in the oxidation of iron and other sulphides, rendered harmless are quite useful for coloring, and in the disintegration of the material as a whole, it is rendered more workable and requires less power for grinding.

Furthermore by storing a sufficient supply, continuous manufacturing is assured with its consequent saving. The quality of the material will also be more uniform.

But with sufficiently powerful pulverizers, or grinders, this weathering in most cases, may be obviated, with the cost for grinding slightly increased but with less capital tied up in the form of weathered clay.

The more modern practices is to store the ground clay to assure a constant supply. This method is even better



than that of weathering for effecting a uniform mixture of the clay.

The crushing of soft clays is accomplished by a disintegrator. For dry clays, the granulator, disintegrator, and smooth rolls form a good outfit. The pulverizer and dry pan are necessary for hard clays only.

The dry pan is the best machine for hard, tenacious clays. But it should be adapted to the clay. For soft easily crushed clay, or shale, the screening should be the maximum and the mullers lighter. For hard tough clay heavier mullers are required and the screen plates should be changed often to get the maximum capacity.

By setting the muller shafts out of line with the diameter of the pan, greater crushing effect is given the mullers and also results in a grinding action between the mullers and the grinding plates. This increases the capacity 25 per cent.

The pan should be placed high enough to permit the ground clay to flow by gravity to the elevator boot. This elevator is used to raise the ground clay into a position where it can drop down over the screen and flow by gravity into a storage bin or to the pug mill. The bucket type of elevator of not less than 10x5 in. or, better, 12x6 in. for a single dry pan is the best practice.

For screening any ground clay to remove lumps, there are many types of screens—traveling, self-cleaning gravity screens, revolving screens, vibrating, shaking screens, etc. The piano wire screen, with or without one of these self-cleaning vibratory methods, is the most popular. The selection of the type of screen involves two considerations: maximum capacity, and a perfect, even product.

#### Pugging the Clay.

The operation of mixing the ground clay or the paste—where surface earth is used—is called “pugging.” Upon the thoroughness of this operation depends the uniformity of the brick’s composition. Insufficient or careless pugging will result in bricks of a structure that is irregular, with consequent cracking in the drying and burning processes, or is weak and non-adhesive. This mixing is performed in a pug-mill, which varies in size and construction, with the amount of water in the paste or the amount added to the clay.

#### Moulding.

In the process of making bricks by hand, the pugged clay is wheeled in barrows to the moulds, usually of wood and clay, very strongly made and best lined with brass or steel, to prevent wear and to effect ease in ejecting the moulded brick. If the whole mould is made of metal, there is less danger of shrinkage or distortion than in the case where wooden moulds are used.

The frame is opened at top and bottom and is laid upon the table at which the moulder works.

With a pile of clay placed at hand, the moulder dampens the mould, sprinkles the sides and table with sand and then forces the clay into the mould. The difficulty here consists in the tendency of the clay to fold into strata which gives the brick an unsightly appearance. The sand, of course, adheres to the surface of the clay and will be burned in later, giving a rough appearance when finished. This is the process for forming the well-known sand mould brick. This method is now being universally superseded by the machine moulded brick.

These brick are then carried to a covered shed and piled seven or eight high in long rows, each row being completed in turn to permit partial drying before the next row is set. Boards or straw should then be laid against the rows to protect the bricks from cracking under exposure to the heat, frost, rain, or wind. Where there is little danger of rain, the brick may be set out in the open. About 25 per cent of water evaporates in the drying. The burning of these bricks will be treated later, with machine made bricks.

Labor difficulties and the low cost of machine made bricks, are rapidly making this process obsolete.

(To be continued.)

## BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.

**B**UILDING operations in Evansville and other southern Indiana cities are fairly active at this time and a trifle more building now is under construction than during the months of April and May. In the city of Evansville the building trades agreed to submit the question of wages to a board of arbitration, as stated in last issue of the Clay-Worker. Under the terms of agreement on which the building trades returned to work, their wages will be cut not less than 10 per cent nor more than 20 per cent of the wage paid to them in 1920. Labor disputes in practically all the southern Indiana towns have been settled and in most every instance the men are working for less money than they received last year.

Brick manufacturers in most of the southern Indiana towns are selling brick at a lower figure than a year ago. Most all other building materials also have come down in price. There is little construction work in Evansville of a large character now going on, outside of two theatres and a few additions to manufacturing plants. The largest job to be done in Evansville this year will be the administration building, power plant and gymnasium of the Evansville College, the contract for these buildings having been let several weeks ago. Ground has been broken and it is expected that the work on these buildings will be pushed.

In many communities building and loan associations are assisting people to build and own their homes. Brick manufacturers say they are looking for a fairly good trade the balance of the year. Some of the manufacturers have had about all they could do thus far this year. The Spencer county court house at Rockport, built of brick, is about completed now and will be ready for dedication within a short time. Tile factories are being operated on fairly good time now and are doing a very nice business. Several manufacturers report a reduction in prices of tile over those of last year.

Evansville is getting ready to build a number of sewers this year that will require a great many brick.

The Helfrich pottery at Evansville now is operating three days a week. The plant had been working only four days every other week. The Crown pottery at Evansville is being operated on steady time and the company reports trade very good.

Henry Kleymeyer, president and general manager of the Standard Brick Manufacturing Company and president of the Chamber of Commerce at Evansville, has several plans to make the Chamber of Commerce a more powerful factor in Evansville than it has been in the past. A Hoosier.

#### THE FREIGHT ITEM ON BRICK COST.

The general public does not realize, and for that matter the brick trade itself perhaps does not fully appreciate, the part that freight plays today in brick cost, especially in the comparative cost of common brick. It starts with fuel and in many cases the freight on coal today is more than the delivered cost of coal in prewar days. Then freights on brick shipments range from a hundred to two hundred per cent above prewar days so that brick delivered on the job even on a comparatively short railway haul have a burdensome item of freight. Indeed it does not take a very long haul now to make a freight cost per thousand as big as the total cost of brick in prewar days. Some study and explanation of this should pave the way to getting easier freight rates in time. Meantime the brick manufacturer may well cultivate more intensively his home trade and seek to extend the scope of truck delivery that he may effect in this way some reduction in the delivered cost of brick.



## TO WHAT EXTENT IS BRICK STANDARDIZATION POSSIBLE? THE CALDER BILL, THE HOOVER CONFERENCE.

Alfred T. Marks.



O WHAT extent, if at all, can the brick output of the United States be standardized? Are the building brick products of the country already standardized up to the highest feasible point?

These queries represent, in substance, what governmental authorities are endeavoring to ascertain in their campaign to again start along the country's building program in a large way.

Secretary of Commerce Herbert Hoover sees the non-standardization of building materials as one of the forces holding back the operations of building industry; Senator Calder, of New York, is no less convinced that by standardization of materials we will have taken a long step, and a very essential step, toward the general, country-wide resumption of building. Both prescribed the standardization of brick and other building materials as one of the methods the country must adopt at the earliest possible moment if building processes are to get back to normal. But each has his own method of applying the remedy.

Senator Calder proposes to reach his objective by using the National Bureau of Standards, and for this purpose has introduced in the Senate a bill for the standardization of building materials. This bill is, in part, as follows:

"That the Secretary of Commerce be, and he is hereby, authorized and directed to create and establish in the National Bureau of Standards a division to be known as the Division of Construction and Housing.

"Sec. 2. That the functions of the division shall be to collect and disseminate such scientific, practical, and statistical information as may be procured, showing or tending to show approved methods in building, planning, and construction, standardization, and adaptability of structural units, including farm buildings, building materials, and codes, economy in the manufacture and utilization of building materials and supplies, and such other matters as may tend to encourage, improve, and cheapen construction and housing.

"Sec. 3. That the division shall exercise its functions in co-operation with the other branches of the public service; with manufacturers, scientific, technical, trade, industrial, and civic organizations; and with firms, corporations, and individuals engaged in pursuits connected with or incidental to the building industry; and shall issue, when necessary, bulletins for public distribution, containing such information as may be of value to the public, to the end that the building industry may be conducted with due regard to economy and the public welfare.

"Sec. 4. That the officers and employes of the division shall consist of a chief, who shall be appointed by the President, by and with the advice and consent of the Senate, and whose salary shall be \$4,500 per annum, and such other employes as may from time to time be provided for by Congress upon estimates submitted in accordance with law."

As an inducement to bring about immediate building of homes and other structures, Senator Calder has also introduced in the Senate a bill exempting such buildings from taxation for a period of five years after completion. Senator Calder, in conversation with the writer a few days ago, said that "the plan proposes to exempt buildings erected for homes for a period of five years from taxation. In New York City the total amount that would be saved by the builder for the period of exemption would approximate 40 per cent. You show a man how he can save 40 per cent on his build-

ing by building now, or rather, to be more accurate, by building within a year or so, and he is very likely to start operations at once. The plan, as a state law, was adopted in New York on January 1, of this year, and within the first two weeks of the year there was a jump of about 50 per cent in the building permits issued.

"Removing the tax on homes means much more than reducing rents; for more building would mean more work, thus benefiting labor. More homes means more furniture, thus benefiting the furniture manufacturers, jobbers, sellers and laborers. If the plan were adopted throughout the country there would be little, if any, unemployment problem. Remove the tax on homes, make this a nation of homes, a nation where everybody can afford to own his own home, give the employment to labor that will naturally follow, boom the business of manufacturing and dealing in the materials that go to the building of a home, and the problem of industrial unrest is largely solved."

According to Dr. S. W. Stratton, director of the Bureau of Standards, the \$250,000 appropriated for putting the Calder standardization plan into effect will be used for a thorough investigation of brick products and other materials for the construction of homes. Part of the money, he stated, would be used to start a nation-wide campaign to stop industrial waste and also a standardization campaign of industrial and construction products as to sizes, grades, etc.

Secretary Hoover has adopted the more direct plan of summoning the building material manufacturers to the Department of Commerce, in Washington, laying the standardization idea before them in all of its bearings, and suggesting that they "get together." It appears to be the general impression in Washington that Mr. Hoover will get results and get them quicker than appears to be possible by the Calder method.

Says Secretary Hoover: "With the country suffering from a shortage of houses as never before, I realize that there are two courses open—either to subsidize the building industry, as the railroads have been subsidized, by government ownership and operation and guarantees, or to organize the building industry so that it can operate with maximum economy and efficiency, and be not only self-supporting, but prosperous. The first idea is to cut off waste. I believe that this can be done by improvement in the building codes. Millions of dollars' worth of building materials are being dumped into economic waste, with high-priced labor employed to do the dumping. There are 265 building codes in the country, and but very few agree on building materials. Probably a half billion dollars a year can be saved in the building industry by determining the strength and adaptability of the materials."

Secretary Hoover has made up his mind to have every industry affiliated with the construction business come forward and tell what is the matter with the laws now and how much good material is being wasted. Preparations are being made by the Department of Commerce, in carrying out Secretary Hoover's plans, to address a communication to all of the big national associations related to the building industry, such as brick manufacturers, lime, cement, steel and lumber producers, asking each to select a voluntary committee to co-operate with the department in its standardization plans.

"Speaking specifically of the brick-manufacturing industry," said Secretary Hoover, "I find that the annual capacity of our American brick-making plants is about 8,000,000,000 brick, while the actual production annually at this time is from 3,500,000,000 to 6,000,000,000. There are periods, of course, when the production of building brick is actually suspended, just as labor is suspended on construction work. If we examined the intermittences we find that they fall into three classes—seasonal and weather interruptions, strikes and jurisdictional quarrels, and inability of transportation to meet the peak load. The seasonal and weather problems are no doubt to a great degree insurmountable, but there could be a definite repair season out of conflict with the season of new building."



## BURNING FUEL AT MAXIMUM EFFICIENCY.\*

By A. M. Wickens.

AT this time when all fuels are so high in price, it certainly behooves all interested to make every effort to conserve as much as possible of the heat generated from the fuel consumed.

After having been convinced that any good system which may have been installed is a fuel saver and having adopted it, we should then look for a further means of saving fuel. The place to look for it is in our boiler furnaces and upon the grates in all kinds of kilns where the heat is generated.

Upon investigation and careful research concerning coal from the mine to the discharge of the escaping gases from our smoke stacks, we find the loss very great. Combustion engineers tell us that the greatest loss occurs upon the grates under our kilns, boilers or other places we burn coal to make heat.

## Some Simple Combustion Chemistry.

The question is how are we to burn the coal to the best advantage, and this means we must study the chemistry of combustion.

Now the oxygen in the air combines with the carbon in the coal. The oxygen in the air is always combining with something but more especially with anything that has carbon in it. The rust that forms on iron or the rotting of an old log is slow combustion. To make fast combustion and a hot fire, we must mix more air and carbon together. The value of pure carbon per lb. perfectly burned is 14800 B.T.U., and each lb. of coal has a fixed amount of carbon in it. In burning the fuel under correct conditions, one atom of the carbon is seized upon by two atoms of oxygen in the air and the result is a gas called Carbon Dioxide, and is written  $\text{CO}_2$ . The oxygen in the air is only slightly over 20 per cent. by weight, and in order to burn the carbon in the coal, we must use  $11\frac{1}{2}$  to 12 lbs. of air per lb. of coal to get the required amount of oxygen.

Now in our furnaces it is impossible to mix the air and carbon in the coal perfectly, so we are forced to use double the amount of air, and here is where our great waste comes in. When oxygen is supplied the carbon only unites with one part of oxygen producing 4500 heat units per lb. of fuel. This gas is called carbon monoxide, the carbon then by taking another part of oxygen, the CO becomes  $\text{CO}_2$ , or Carbon Dioxide, which has 14500 heat units and the combustion is complete.

By this you will see that for each pound of coal or carbon burned, we burn 2 lbs. of air, and in burning it we have to take through the fire 10 lbs. of air that does not support combustion, but has to be heated up to the temperature of furnace gases. Air is composed of oxygen, nitrogen and hydrogen. The oxygen supports combustion, the nitrogen will not aid combustion, but is a useless dead load we must put up with. The hydrogen burns fiercely, but the quantity is small and we will not consider it here. If we burned all the carbon with a perfect mixture of air, the temperature of the fire would be about 4000. This is only possible under perfect theoretical conditions. Any fire under good conditions will have a temperature of from 1800 to 2300 Fahrenheit and if the correct quantity of air is admitted the resulting gas should be  $\text{CO}_2$ .

Some of the oxygen has passed unburned. If we could attain perfect combustion our fires would have a temperature of 4000 degrees. This would melt down side walls and arches, so we must be satisfied with a per cent. of the theoretical, so we begin to look for the highest per cent. we can reach. If our fires are clean and we use double the amount of air required, say 20 to 25 lbs. air per lb. of coal, we should get escap-

ing gases with at least 13 per cent. of  $\text{CO}$ . Now we have 20 per cent. of oxygen in the air and some of it will escape. This is a loss we cannot avoid, it is heat going out of the chimney.

If our escaping gas has 15 per cent. of  $\text{CO}_2$ , there is no preventable loss. At 13 per cent. of  $\text{CO}_2$ , the loss is 1.75 per cent.; at 10 per cent. of  $\text{CO}_2$ , the loss is 5.69 per cent., while at 5 per cent.  $\text{CO}_2$ , the loss is 22.79 per cent. The average furnace does not reach 10 per cent. of  $\text{CO}_2$ , and in fact many are as low as 5 per cent., so here is where the greater saving can be made.

## Conserve Heat.

First, get the best results in generating the heat. Then conserve all waste heat until the heat is all used. The heat unit is that amount of heat that will increase the temperature of 1 lb. of water, one degree F., and is called the British Thermal Unit of Heat, and is written B.T.U., and is the standard of the world, and upon it is based all calculations of efficiency.

Now, perhaps you will say this is all very nice, but how are we to accomplish it? A first class fireman cannot tell by the appearance of the fire whether he is just right or not. The fire may be so thick upon the grates that the amount of air needed cannot pass through it, or it may be so thin that it leaves bare spots on the grate allowing oxygen to pass unburned for want of coal.

Install a  $\text{CO}_2$  Recorder.

The facts that should be known continually are: 1st, the temperature of the escaping gases; 2nd, the amount of  $\text{CO}_2$  that the gases are composed of. A recording thermometer at the base of the stack, and a  $\text{CO}_2$  recorder which analyzes the stack gases continually. These instruments will tell the fireman what is wrong, when it is wrong, and he will soon know just what to do to remedy the trouble.

There are other losses also with the coal. 1st, the loss in transportation and handling, estimated at 2 per cent.; 2nd, unburned coal falling through the grates, 3 per cent.; 3rd, on the ground and firing floor, 2 per cent. A car load or two dumped down on the boiler room, or on a firing floor is subject to waste. If the coal is on the ground it is tramped into the ground by passing wagons, carts, etc., also by the men wheeling it nearer to the grates. This is a heavy loss in wet weather.

By using all precautions we should get an efficiency of 80 per cent. of the heat in the coal utilized, and 20 per cent. going up the stack. This is the best present day practice. The average plant utilizes from 50 to 57 per cent. of the heat in the coal, leaving from 50 to 43 per cent. lost by unburned oxygen and other wastes. The greatest loss is in using too much air. Out of 100 tons of coal burned in the average plant, 35 tons of it goes up the smoke stack.

First get all the heat possible out of the coal, then arrange the openings and passages in the kiln so that all the heat may be utilized, discharging only that cooled down until it is useless.—\*Paper read before the National Canadian Clay Manufacturers' Association, Toronto, Ont.

## TARIFF COMMISSION SURVEYS.

Tariff information surveys have been prepared by the United States Tariff Commission covering products mentioned in the schedule B of the tariff act. These include a full line of clay products under the various heads of brick, tile pottery, etc. The surveys follow a general standardized form consisting of a description of the articles, uses, methods in process of manufacturer, difference between foreign and American methods of production, nature and source of raw material, data pertaining to production, import and export prices, and costs in so far as practical. These surveys have been published in pamphlet forms and include the following: "Brick and Tile, Clays and Earths, The Pottery Industry."



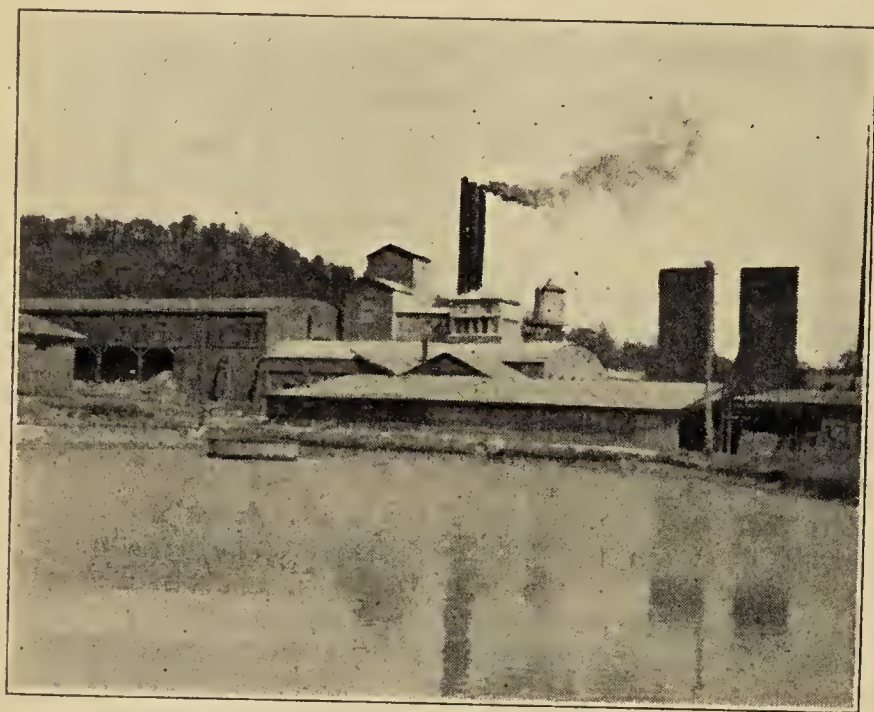
## CORAL RIDGE CLAY PRODUCTS CO.

"The Best Brick Plant in Kentucky."

WHEN THE WRITER started out with pencil, paper and camera to get notes and snapshots for a pictorial story of how brick and hollow building tile are made at the plant of the Coral Ridge Clay Products Company, the first statement made by General Manager J. T. Howington on being interviewed about the plant and its equipment was that, "It is the best brick plant in Kentucky." The general offices of the company are in the Intersouthern Building, Louisville, and the plant is located in the South Park Territory, about ten miles south of Louisville, in the hills along the L. & N. railroad at Coral Ridge Station. Two big billboard signs on the hillside tell those passing by on the train that this is the plant of the Coral Ridge Clay Products Company, manufacturers of shale building brick, and hollow building tile.

#### The Raw Material.

The raw material consists of an inexhaustible supply of soft shale, which is spread out and rolled up on 240 acres of



Plant of the Coral Ridge Clay Products Company.

land which the company owns. So far they have only made a start on this raw material and are working from a ledge which shows about a 40 foot face. They garner the shale with a Marion Steam Shovel, which dumps it into tram cars that are pulled by drum and cable into the receiving and storing end of the plant where they have room to store a week's run. Two underground conveyors take the shale from the storage room and feed it into two nine foot Frost dry pans. Elevators carry the ground clay to piano wire screens. From here the screened material goes into a bin which holds about three hours' run, enough to give flexibility to the operations of the plant.

#### The Brick and Tile Equipment.

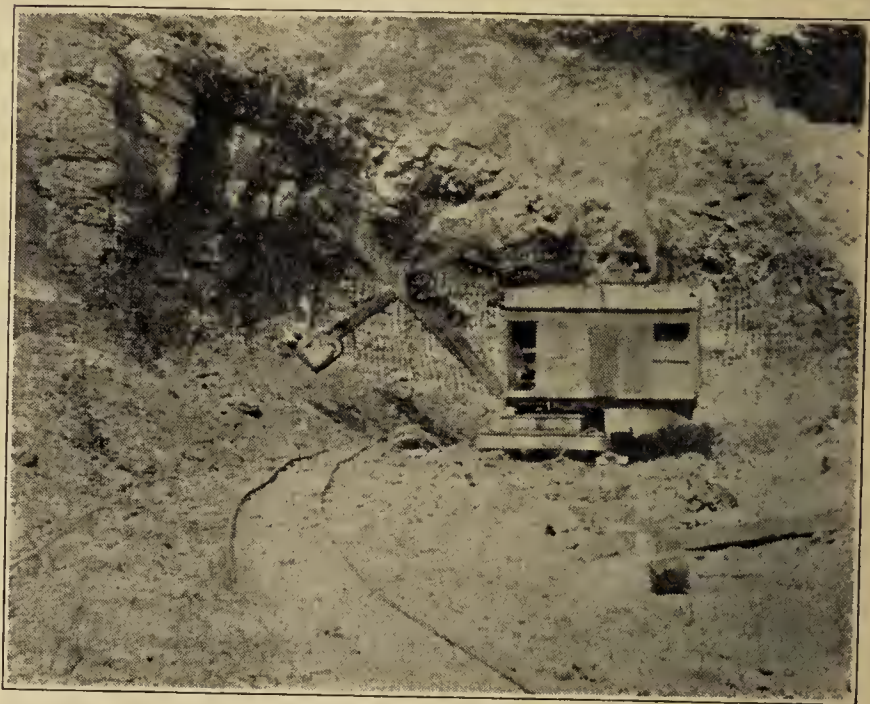
The equipment for brick and tile making consists of two machines. For brickmaking, a Fate pug mill, and a Chambers augur stiff mud machine, with a Freese C-30 model automatic for making side-cut brick. Alongside this is a Freese K. C. Union machine for making hollow tile. It is equipped with the Louisville (Ohio) Machine Co. tile dies, hand bow cutter and off-bearing table 24 feet long.

This is the manufacturing equipment proper, and it has a capacity of 60,000 brick a day, or 90 tons of tile. The capacity

is really limited by the drying and burning capacity, and in order to balance this and to equalize the shale using capacity they usually strive to arrange their schedule so as to run half the day on brick and half the day on hollow tile. The usual plan is to run the forenoon on brick and the afternoon on tile, as this serves to better balance the drying and also the shale tonnage required for a day's work. To run a full day on brick calls for a larger shale tonnage than a full day on tile, and also for a larger drying space.

#### The Drying System.

The dry kiln equipment uses the heat from the exhaust



Garnering Shale With a Steam Shovel.



Portion of the Clay Storage Shed.

steam, both direct with coils and with fan and forced draft. They have two drying houses, with six tracks each, making a total of twelve tracks, with a housing capacity of 200 cars. Originally it was equipped with natural draft and two stacks, but last year in order to increase the drying capacity an American Blower fan was installed with an American Radiator Company Vento-Radiation system having a capacity of 33,000 cubic feet of air per minute, preheated to a temperature of 160 degrees F. Bear in mind also that there are direct heating coils inside the dryer rooms, so that with this combination they are able to get a temperature that sometimes



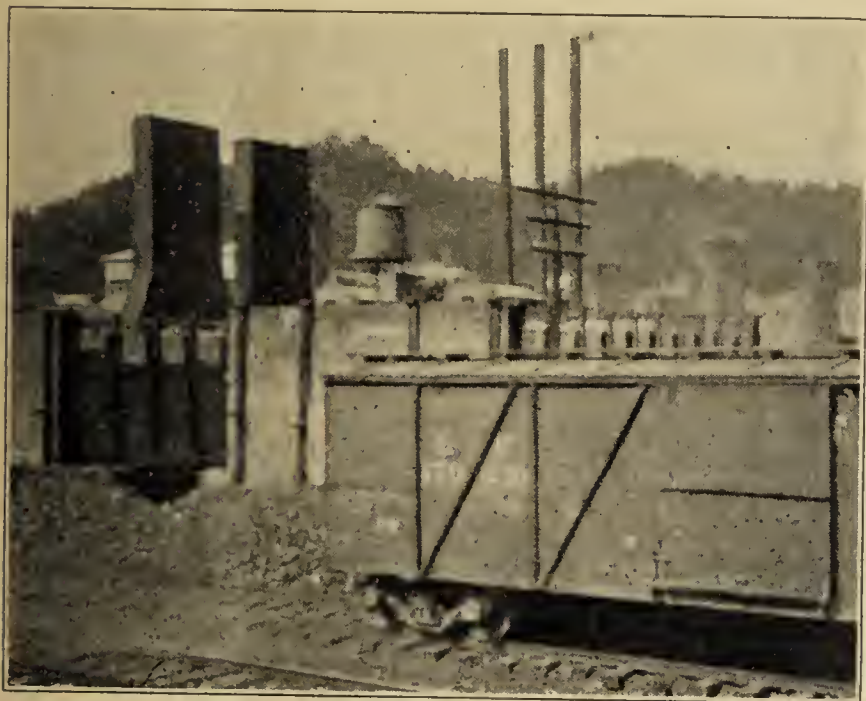
runs above 200. The usual temperature schedule is, for tile, 150 at the intake end, and 175 at the hot end; brick, 140 at the intake, and 160 at hot end. This is pretty high drying temperature and it is one of the things that contributes materially to their drying capacity. With this temperature and their blower system they are able to dry the hollow building tile in 24 hours, and the brick in 48 hours.

#### Balancing Brick and Tile.

Here we have one of the explanations of why it balances things up better to run half a day on brick and half a day on tile. They use double deck steel dryer cars, and since these



Round Down-Draft Kilns at the Coral Ridge Plant.



A View of the Plant from the Railway Siding.

cars, when loaded with brick, must stand 48 hours in the drier, and when loaded with tile only twelve hours, it keeps the movement and supply of dryer cars better balanced to split the work fifty-fifty and keep the two going at once. Exhaust steam is used in the drying except at night when the plant is not operating, then low pressure steam is used to maintain temperature. The temperature is kept well under control and is shown by recording thermometers.

#### The Kilns.

The burning equipment consists of five rectangular down

draft kilns of 160,000 brick capacity each, or 195 tons of tile, all on one stack. Five round down draft kilns, with 60,000 brick capacity each, with two stacks to each kiln. The usual burning time is about eight days on solid brick, about six days on hollow brick, and about four days on hollow building tile.

#### Five-Stage Burning.

The maximum burning temperature of both brick and tile is approximately 1675-F. The burning standard of brick is divided up into five stages, substantially as follows:

|                             | Temperature | Hours |
|-----------------------------|-------------|-------|
| Water smoking.....          | 350         | 36    |
| Heating up .....            | 1,350       | 68    |
| Clearing up (held at) ..... | 1,350       | 36    |
| Advancing, up to .....      | 1,675       | 6     |
| Settling (held at) .....    | 1,675       | 56    |

Brown Pyrometers are used in the kilns, both indicating and recording, and the temperature is kept well under control and is closely regulated so as to insure uniformity in product.

#### The Product.

The product made consists of several grades of standard brick, two-cell hollow brick, and hollow building tile in all the standard shapes and sizes. All of which burns to standard



A Glimpse of the Rectangular Kilns and Fuel Supply.

red color. The trade names for the various products, which will give an idea of their character, are as follows:

- Coralred (smooth red brick).
- Coralmat texture (wire cut).
- Coralruff texture (rug type).
- Common brick.
- Hollow brick (two cell).
- Hollow building tile.

#### The Fuel Requirements.

A record of the fuel requirements indicates that for burning proper the consumption is approximately a thousand pounds of coal per thousand brick. The requirements for power purposes in the manufacturing of brick is 250 pounds per thousand brick, while another 30 pounds is used in the steam shovel for digging the shale. This makes a total of 1,280 pounds of coal, all told, per thousand brick. The coal used is west Kentucky two-inch nut, which grades below the Pittsburgh and Eastern Kentucky coals, but slightly above most of the Illinois coal.



**Surplus Power Equipment.**

One of the many good things about this modern clay working plant is in the power plant. It is a line shaft and belt-driven all the way through, except that a motor is used for the drum haulup. The boiler house is equipped with three 150 horse power return tubular boilers six feet in diameter and eighteen feet long. It used to require two of these in operation to run the plant, but at the present time they are able, through improvements and economies, to maintain steam for plant operation on one boiler at a time, thus effecting quite a saving in power fuel.

The engine is a 400 horse power Hamilton Corliss, with a 16-foot fly wheel, over which they drive the main line shaft with a 36-inch belt. The brick machines, pug mills, dry pans, etc., are all belt driven, and the line shafting as well as the engine is firmly mounted on concrete foundations. There are two electric generators in the engine room. One driven from the line shaft, which is operated while the plant is running, and one independent generator driven by a Skinner automatic engine for supplying electric current when the plant is not in operation. All the wiring for lighting purposes is carried in conduits, and this feature alone has favorably influenced the insurance rates.

**Shower Baths and Distilled Water.**

Adjoining the boiler house they have equipped a splendid outfit of shower bath rooms for the white men of the crew; also separate ones for the colored men, and a third one for the foremen. Besides these bathing facilities there is also provided distilled ice water for the employees while at work, and for them to take to their homes for drinking purposes. To produce this pure drinking water they equipped with a Jewel Polar Still No. 2, made by the Jewel Polar Company, Chicago, Ill. They also have a well and pump, but the well has a sulphur flavor which some object to, consequently they put in the still so as to furnish pure distilled water. In addition to the factory buildings and office the company also has fifteen dwellings, most of them erected specifically for colored employees. They also have a temporary tent church in which a colored minister holds church services regularly.

**The Organization.**

At the present time the plant employs fifty-one men and the official plant organization consists of W. B. Harris, Superintendent; J. W. Fearington, Assistant Superintendent; J. G. Miles, Yard foreman, and J. W. Elzey, Burning foreman; P. C. McDonald, Chief Clerk.

**INDUSTRIAL PLANT GOVERNMENT.**

There is in hand published in pamphlet form what is called the "Scoville Hamlin Plan" for industrial plant government, published by the Smith-Hamlin Construction Co., 66 Broadway, New York. We heartily agree with the frontispiece slogan, which is that labor should strive for betterment, not domination. The publication points out some of the weakness and faults of labor union ideas and methods such as claiming exemption from the law while using force, the strike, to gain profit and power for its members. The publication then sets forth some detail plans for dividing authority between owners and workers in plant management which have perhaps more of the ideal than practical. We welcome efforts of this kind, however, because all of them have a common purpose, and that is to eliminate strikes and to direct the thought and energies of trade organization toward betterment rather than domination. Copies of the pamphlet are offered to employers desiring them for twenty-five cents, each with a ten per cent discount for a hundred or more.

**WITH THE POTTERS.**

THE SEBRING POTTERY Co. of Sebring, Ohio, and the Saxon China Co. of the same city have recently installed what appears to be an entirely new type of batting-out machine. The machine consists of a lever, to which is attached a batting block, this arrangement being so made that the batter is brought down to the block in such a manner as to make a perfect bat. This batting block is counter-balanced and can be raised and lowered with ease. It is said by these two concerns that with this type of batting-out machine, an experienced man can turn out more bats, and with less trouble and effort than in the old manner.

The Mercer Pottery Company of Trenton, N. J., have made considerable improvements in their plant, among which are the installation of an automatic machine for the making of pins used in their glost kiln work. The machine produces the pins in the form of a solid ribbon, each upper section of pins lying between the lower. The width of the ribbon is practically equivalent to twenty-seven saucer pins. It can be readily understood, that due to the fact that the individual pins are not allowed to hand separately from the die, but are interlocked with one another, they cannot possibly twist or become crooked. This progressive concern has also installed a new type of dipping mangle which not only carries the ware away from the dipper but conveys it from three different localities to a general collecting point in the stillage room.

The Saxon China Company of Sebring, China, has recently inaugurated a new idea in the pugging of clay. They have lately installed two pug mills working in conjunction with one another. One a horizontal machine and the other a vertical type machine, the clay being delivered for the second pugging from one pug mill to the other by means of a bucket conveyor.

One of the recent incorporations under the laws of the state of New York was that of the Tunistian Products Company of New York City to deal in floor and wall tiles. This concern was incorporated for the sum of \$25,000.00. The incorporators were as follows: Messrs. C. R. Neal, E. C. Messler, and D. G. McConnell, all of New York City.

General Manager William C. Brown of the Alliance Vitreous China Company of Alliance, Ohio, announces that this concern intends to increase the production of their plant to the extent of about 40 per cent. At the present time the plant is operating three bisque and one glost kiln.

A recent incorporation under the laws of the state of California, was that of the California Shale, Brick & Tile Company, with headquarters at San Francisco. The company was incorporated for \$400,000.00. Messrs. G. A. Fogerty, H. W. Lobb, and H. M. Anthony will constitute the Board of directors for this concern.

The Phillips-Harper Company of Trenton, N. J., dealers and manufacturers in all classes of burned clay products continues to do quite some business, despite the general wane in construction operations throughout the country. This company handles all classes of clay products, such as common brick, face brick, drain tile and terra cotta. This company recently furnished the face brick for the large new Stacy-Trent Hotel of Trenton. It is understood that they have also been awarded the contract to furnish the face and common brick for Trenton's new \$500,000.00 Young Men's Christian Association building. At the present time they are furnishing the hollow tile for the Baltimore Country Club building at Rye, New York.

The officers of the Kenilworth Tile Company of Newell, W. Va., are planning the rebuilding of its plant which was



partially destroyed by fire some few months ago. The damage amounted to nearly \$40,000.

The Walter A. Pitt Company, of Bloomfield, N. J., has recently incorporated with a capital of \$100,000.00 to deal in sanitary ware. The company was incorporated by Messrs. Walter A. Pitt, M. D. Pitt and Geo. H. Pitt, all of Bloomfield, New Jersey.

The erection of a one story pottery addition has been announced by the Hume China Company of Carey, Ohio. The new addition will be 150x500 ft. and is to be constructed of brick, tile and concrete, and which is to be fireproof throughout and will give them a decided increase in production.

It has recently been announced that another unit will be shortly added to the great sanitary manufacturing plant of the Standard Sanitary Mfg. Co., of Pittsburgh, to be erected in the southern part of Louisville, Ky. They are to erect a modern pottery plant with an outlay of approximately \$75,000.00. The building will be 75x200 feet in size and will be one story in height with a large basement. It will be of the monitor type, and will have a specially raised roof to provide a greater amount of daylight. This plant will be used for the manufacture of china handles, and a small variety of smaller china articles. This will give this company three large plants, namely, at Tiffin, Ohio, Kokomo, Indiana, and Louisville, Ky. The home office of this large company is located in the Bessemer Building, Pittsburgh, Pa.

The Jackson Clay Products Co., of Jackson, Ohio, has been chartered with an authorized capital of \$20,000.00 to purchase land for the mining of clay and to erect a plant for the manufacture of clay products. The incorporators are Messrs. H. P. Harding, S. S. Van Cleve, P. C. Van Cleve, John P. McDonald, and Sydney S. Kemp, all of Jackson, Ohio.

The State Department of Virginia announces the incorporation of the Refractory Products Co., of Wilmot, Virginia. This company was chartered for the manufacture of high-grade refractory materials. The company will operate its own clay properties, which are located in the same section of the state. The amount of the incorporation was placed at \$900,000.00.

One of the largest and latest incorporations in the Dominion of Canada, is that of the Delson Brick Co. of Montreal, Canada, which has been recently incorporated for \$100,000.00 to carry on the manufacturing of brick, terra cotta, floor tile, drain tile, and sewer pipe. The directors of this concern are William Taylor, manager; F. H. Robertson, accountant; S. G. Dixon and R. E. Allen, of Montreal, advocates.

Mr. Allen W. Surles, for many years connected with the D. E. McNicol Pottery Co., of East Liverpool, Ohio, and a prominent American ceramist, has resigned from that concern to take over the management of the Chittenango Pottery Co., of Chittenango, New York. Mr. Surles is at the head of a new Ohio enterprise, which has taken over the property of this company, and it will be placed in operation within a short time. At the present time the plant is undergoing extensive repairs. This pottery will feature a line of tea pots.

Mr. H. G. Schmidt, president of the Schmidt Color and Chemical Co., of Porter, Indiana, contemplates the construction of a new pottery plant which will be located near Valparaiso, Indiana. The plant will be utilized solely for the manufacture of a high-grade of chinaware.

The State Department of Michigan announces the incorporation of the Sparta Clay Mfg. Co., to be located at Sparta, Michigan. The amount of the incorporation was placed at \$40,000.00. Enoch Armock, T. E. Graham, and Fred H. Klink, were the incorporators.

The plant of the Trenton Flint and Spar Company, on Marion Street, Trenton, N. J., is practically completed. This structure represents an expenditure of approximately \$100,-

000.00. The Karno-Smith Company are the general contractors. The structure is 100x35 feet, a portion of which is two stories in height. There is also a one-story building 35x80 feet and a boiler building 33x35 feet. The construction is of brick, steel and timber. This company also has a large plant in the State of Maine, and has been doing business since 1864. Mr. Richard H. Wainford, of Trenton, is the head of this concern.

Another New Jersey concern to file articles of incorporation with the Secretary of State was the D. & P. Roofing Tile Company, of Guttenburg, New Jersey, which was incorporated with a capital stock of \$125,000.00 to manufacture roofing tile of all kinds. The incorporators of this company were G. Drapp, A. Poellot, and A. G. Drapp, all of West New York, N. J.

The Clay Products Co. of America, with home offices at Philadelphia, Pa., recently broke ground for the main manufacturing building at its new brick plant at New Hope, Pa. The new building will be of brick and steel construction with concrete foundations. After manufacturing operations have begun in this building it is proposed to add other structures which will be made of brick produced at this plant. The company has just completed a railroad track from New Hope station to the factory. Within a short time it is expected that the plant will be in full operation. The estimated outlay, including buildings, machinery, and other equipment was placed at \$900,000.00.

The Ritter Pottery Company, of Toledo, Ohio, has been recently chartered under the laws of the state of Ohio, with a capital of \$50,000.00 to operate a pottery plant and to manufacture a general line of high-grade earthenware. The incorporators of this company were H. F. Corodo, F. W. Ritter, B. W. Pattick, C. J. Ruepenbacker, and G. Z. Anthony, all of Toledo, Ohio.

Another pottery to locate in Ohio was the Flannagan Pottery Company, at Byesville, Ohio. The first kiln was drawn in the latter part of January, and consisted of a special line of high-grade teapots. Mr. James E. Flannagan, who for the past few years has been engaged in the jobbing business heads this new company.

A recent incorporation under the laws of the State of Indiana was that of the National Clay Products Company, of Muncie, Indiana, which was recently incorporated with a capital stock of \$25,000.00. The directors of this new enterprise are Messrs. Carl Pittinger, W. W. Wingate, and Frank Ault. This company will engage in the manufacture of a general line of clay goods, also cement products.

One of the largest terra cotta orders to be awarded during the past few months was given to the Federal Terra Cotta Company, of Woodbridge, N. J. The order amounts to approximately \$110,000.00 and is to be furnished for the erection of a church for the Roman Catholic Diocese of Newark.

A recent large incorporation in the Dominion of Canada was that of the Canadian China Products Co., Ltd., of Toronto, Ontario, which filed articles of incorporation, with a capital stock of \$300,000.00. It is the intention of this company to manufacture brick, tile, earthenware, pottery ware and other ceramic articles.

At a recent meeting of the Board of Trustees of the School of Industrial Arts, Trenton, New Jersey, Frank S. Katzenbach, Jr., Supreme Court justice, was elected president, succeeding John A. Campbell, president of the Trenton Potteries Co., and the new Million Dollar Mutual Potteries Company. Mr. Campbell was president of the governing board of this school since 1914. Charles Howell Cook, head of the Cook Pottery Company, was re-elected vice-president, and Mr. E. C. Stover, of the Trenton Potteries Company, was re-elected treasurer. This institution stands high in ceramic work in this locality and is supplying the demands made upon it by local potters for young ceramists.

A. POTTER.





#### MODERN DEVELOPMENT OF THE DIRECT-FIRED TYPE OF RAILROAD TUNNEL KILN.

THE DEVELOPMENT of the direct-fired type of tunnel kiln has proceeded so rapidly in recent years that it has gotten beyond the knowledge of the majority of manufacturers. However, it is of vital importance to them and it is the purpose of this article to acquaint the clay-worker with the direct-fired kiln, not as it was even five years ago, but as it is today.

If we should desire to employ a tunnel kiln to fire a ware, such as terra cotta, which undoubtedly requires a muffle type of periodic kiln, we would wisely build a tunnel kiln of the muffle type. The same thing would apply to sanitary ware, if it should be desired to set it "open" on the kiln cars. But, if we desire to use a tunnel kiln to fire ware which for generations has been successfully fired in the direct-fired type of periodic kiln, why should we go to the expense of supplying a costly system of muffles and depend upon the radiant transfer of heat, unless such a measure is essential to the successful firing of the particular ware? Why not adopt the simple, old method of applying the fire direct to the setting?

It has been maintained by advocates of the muffle type of tunnel kiln that more even temperatures can be secured throughout the setting of ware than in the direct-fired type. This is absolutely erroneous. Muffle kilns will show a variation in temperature between the top of the setting of ware and the car platform of anywhere from one to three cones, and the writer has yet to find the muffle kiln which can boast of less than a cone different between the top and the bottom of the setting. This minimum difference can be found only where the car movement is very slow—say two to three hours. As the car schedule is increased the difference becomes greater.

There has been a recent case in the operation of a direct-fired tunnel kiln where the glost ware, which required an easier fire than the bisque ware, was placed at the top of the setting and the bisque at the bottom—both kinds of ware being fired in the same kiln and at the same time. The next week the kiln was operated with the cars loaded from top to bottom with bisque ware. Such an even heat distribution was secured that the temperature over the entire setting did not differ by a third of a cone. This was in a single-tunnel type of direct-fired kiln, firing sanitary ware and using oil as fuel.

In another case, where the direct-fired type of kiln was used for firing semi-porcelain general ware, using bituminous coal, hand-stoked, the temperature at the bottom of the setting was slightly higher than at the top of the setting, due to the special construction of the kiln designed to overcome the almost universally higher temperature found in the top of the tunnel as compared with the bottom, characteristic of all types of tunnel kilns.

Wares, such as tableware—both American china and semi-porcelain, vitreous sanitary ware, high-fired porcelain burned to cone 18, fire brick and hollow building block, have all been successfully handled by kilns of the direct-fired type. These various wares require their own peculiar firing condition and have temperature ranges widely different.

It is not necessary to provide baffles to protect the ware on the cars. The flame may be kept entirely out of the tunnel itself, or combustion may be completed in the tunnel, with the flame surrounding the ware. The kind of ware being fired controls the kind of combustion desired and the proper manipulation of the fires to produce the desired condition.

In the past there seems to have been quite a lack among kiln builders of appreciation of the proper burning conditions necessary to fire heavy building materials, and consequently many kilns of faulty design have been constructed, both of the direct-fired and of the muffle type. Each different material to be fired presents its own particular problems and these must be carefully considered in designing a suitable kiln. The kiln that handles one material successfully may not prove to be the proper kiln for another clay. It is certainly to be regretted that so many kilns have been constructed without sufficient foresight. However, since they have been built and tried, they may be used to excellent advantage in supplying information which should prevent a repetition of such disasters. Extended investigation and careful consultation with reliable authorities is the ounce of prevention in cases of this nature.

The properly designed direct-fired kiln with its adaptability to varied firing conditions, its simplicity and ease of control, its evenness of temperature throughout the setting, its sturdiness of construction and its relatively low cost of construction and maintenance should appeal very forcibly to the progressive clayworker.

In a recent installation of a direct-fired kiln for a prominent manufacturer of tableware, the manager of the plant reports that he is now making one ton of coal do the work that required ten tons in his old periodic kilns. That is to say, he is saving ninety per cent of his fuel, or to put it in actual cash, where he used to spend one thousand dollars for fuel he now spends one hundred dollars. This is an exceptional case, as the saving usually will not run over eighty per cent. A kiln that will result in such a saving will actually pay for itself within a period not to exceed two years. This is a fifty per cent investment and cannot be equalled by any other piece of apparatus or equipment that the manufacturer can put into his plant. The manufacturer who is going to make additions to his plant, or who is contemplating building a new plant, must build a tunnel kiln, for if his competitor puts in a tunnel kiln he must soon follow suit or close his shop.

Colonel Boone used to say, "Be sure you're right, then go ahead." This certainly can be applied to the purchase



of a tunnel kiln. Look before you leap. Do not be satisfied with looking casually at a couple of tunnel kilns, but examine dozens of them and investigate their design, their cost, and their saving. Only after you have done this will you be competent to be your own judge of merit, and finally, do not let a good salesman sell you his kiln, but investigate thoroughly, then BUY the kiln which your best judgment dictates is the best and safest investment.

FRANK M. HARTFORD.

#### BRICK ART AND CRAFT CONFERENCE BEGUN IN PHILADELPHIA.



AN IMPORTANT meeting called to "Promote the Knowledge of Brickwork" was recently held in Philadelphia. The Presiding officer was Henry T. Shelley, and the conference took place on the night of April 12th in the Bureau of Surveys, City Hall, of which bureau Mr. Shelley was, until April 15th, chief engineer in charge of sewer construction besides being chairman of committee C-3 on brick of the American Society for Testing Materials. The call for the meeting was issued in conformity with the resolution adopted at the New York conventions of the National Brick Manufacturers' and the Common Brick Manufacturers' Association to inaugurate in each locality a movement for improving conditions in every way possible with respect to the art of brickwork and the craft of brickmaking and bricklaying.

All interested elements of the local building industry were present, including architects, engineers, mason contractors, bricklayers, hod carriers and building laborers, manufacturers, of brick and producers of other materials used in connection with brick work, together with city sewer contractors and bricklayers and city inspectors. The City Building Inspection Department was also represented by Chief Edwin Clark, Engineer Manton C. Hibbs and several inspectors.

Much credit is due Mr. Shelley for the able way in which he handled the duty of chairman. His inspirational remarks between topics were responsible for developing many new and interesting lines of discussion.

It would be difficult in so brief a review to state the many points brought out by the speakers who were representative of every phase of brickwork from its design to final acceptance.

Architects spoke of the inherent beauty of brickwork and made a plea for a better knowledge of materials and methods of utilization.

Manufacturers urged uniformity of specifications based on a better understanding of manufacturing problems.

Contractors and bricklayers discussed better methods of handling, scaffolding, and co-operation in management. All generally discussed among other items:

Uniform nomenclature for brick and brickwork.

Classification of brickwork as a comparative basis and greater incentive for better workmanship and a public understanding of time factor in production.

Mortars and methods of mixing.

Special interest was manifested in the new type of hollow wall formed with standard size brick units laid on edge, becoming generally known as the "Ideal Wall." It was believed that this wall will revolutionize use of brick building construction.

The meeting at its close developed into a farewell testimonial to Chairman Shelley whose resignation was to take effect on April 15th, and who has been largely instrumental in securing a constructive attitude toward the use of brick

for city sewers because he has been insisting on a thorough study and knowledge of all materials. Through exhaustive tests for the last fourteen years in his bureau, he has developed the real value of brick in a truly comparative way. The splendid results achieved for the city under his direction have been due to the co-operative effort of all elements and whole-hearted teamwork toward the solution of the problems. By co-operation with the sewer contractors it has been possible to eliminate nearly all construction difficulties and most of the lost time of bricklayers due to weather conditions.

So successful was the meeting and so indicative of the desirability of further discussion of design, plan, apprenticeship, management, efficiency, and pride of product and craft that it was unanimously voted by this meeting to continue such group councils. Architect D. Knickerbacker Boyd, who is also chairman of the sub-committee on promoting knowledge of brickwork of committee C-3, American Society of Testing Material, was elected chairman of a committee to arrange for and conduct future meetings. He has requested the various elements to elect their representative on the committee and at an early date will be ready to announce the program for the Second Brickwork Conference in Philadelphia.

#### WITH DETROIT BRICK MANUFACTURERS.

A RECENT VISIT to the automobile city afforded an optical illustration of the fact that Detroit is still a great and prosperous city. Building operations sagged a little early in the year and have not yet reached a boom stage, but there is a sufficient demand for building brick to keep the local plants running to fifty per cent. or more of their daily capacity. The Clippert & Brother Brick Company's plant is running six days in the week, making 60,000 a day on their new automatic machine, with which they are very much pleased. It turns out a fine brick with a lower cost for labor than any machine they have ever had, the automatic feature working like a charm. It has been christened the Strickland Automatic Brick Machine and is made by the Wellington Company, Wellington, Ohio.

The Mercier-Bryan-Larkins Company is operating its plant and expects to continue to do so through the season. They have recently completed an office building at the plant, which is a model structure for the purpose, being a one and a half story red brick with cement floored basement. There are fire-proof vaults in same for the safe keeping of the records and liquid assets of the company. In showing us through the office and calling attention to the elegant appointments for the accommodation of the officers and workmen as well, Mr. Charles Bryan did not disguise the fact that he is very proud of it. We are promised a photograph for the columns of The Clay-Worker in the very near future. We may remark in passing that Charlie is a mayoralty possibility. While not seeking the office he is very apt to be called into municipal service.

Genial John Haggerty said there was nothing unusual in the local situation, that his plant, like the others, was running and he anticipated the demand would keep them going right through the season. Building bricks are still selling at \$18 per thousand, which is justified by the high cost of fuel and labor.

#### LIME PEBBLES AND THEIR CURE.

Many clayworkers are handicapped by the presence of lime pebbles in their clay. Indeed, some plants have been put out of business by this fatal mixture. If the reader will turn to page 711 he will find a remedy for the trouble in the form of a clay pulverizer which handles with equal facility wet and dry material. For further particulars address M. F. Williams Patent Crusher & Pulverizer Co., 2701 N. Broadway, St. Louis, Mo.



## CHINA CLAY DRYING IN ENGLAND

CONSUL W. W. MASTERSON of Plymouth, England, who says that china clay is one of the chief exports from Plymouth to the United States, sends through the Consular Service a newspaper report describing the older and the present newer methods of drying and preparing china clay there. The method of drying is described as follows:

"Interesting developments in connection with the drying of china clay are likely to have an important bearing on this industry in Devon and Cornwall. For many years experts and owners of works have been searching for a new process for drying the clay whereby much of the time and money now expended might be saved. It was generally admitted that the cost should be reduced; but how was it to be done? At last something tangible has been arrived at which bids fair to revolutionize present methods.

### Water Content of Clay Evaporated by Heated Drum.

"A china clay dryer now consists of a long shed, with a fire at one end and a chimney at the other. This shed may be anything from 200 feet to 300 feet long, and the fire is led by flues from the fire box to the chimney. Above the flues are fire bricks, and toward the chimney end aluminum plates are often substituted for the tiles. Before the clay is dried it has to pass through settling pits. These pits are so constructed that a great deal of water can drain out of the clay and thus save coal in drying. Since the war the cost of building a dryer has increased enormously, so that now it costs from £20,000 to £25,000 to build a plant to handle 12,000 tons a year.

"In this new method there are used two metal drums, one inclosed in the other. The inner drum revolves by mechanical power, and while it is revolving steam enters it at a few degrees above the temperature of boiling water. The clay is passed into the outer drum and comes into contact with the inner moving drum, in which is the steam. The water in the clay is evaporated, and the clay immediately dried, the process taking only one or two minutes. The temperature of the steam which has been lowered in the operation is passed back to the boiler and again raised by a small expenditure of coal, and thus a great saving of coal is obtained.

"Clay now shipped from the 'dryers' contains 12 to 15 per cent of moisture, and the transport of this water has, of course, to be paid for, the carriage charges amounting to a large sum in the course of a year. Clay containing only 2 per cent of moisture would be practically in the form of powder, and thus difficult to ship; but this problem could be solved by putting a certain amount of the dry clay in sacks or casks, stacking them in the holds, and filling in with the powder.

### Saving Effected—New Industrial Possibilities.

"It is claimed that a great saving of labor can be effected by this new method of drying, as the clay can be fed automatically into the drum instead of being carried as at present from the settling pits to the drying pan. It will further mean a great speeding up in the drying, while the space occupied will be only about an eighth or tenth of that occupied under the present system. Further still, the settling pits can be reduced to about a fifth of their present number. At present 1 ton of coal will dry from 8 to 10 tons of clay; by the new method 1 ton of coal will dry 45 tons of clay.

"The plant required for the new process consists of two essential parts, a small power plant driven by suction gas produced from anthracite simply for keeping the drum revolving, and a boiler for producing the superheated steam, the heat for this boiler being obtained from ordinary steam

coal. It is estimated that apparatus capable of drying about 500 tons a week—that is, 24,000 tons a year—will cost between £13,000 and £14,000.

"It is highly probable that the demand for china clay will be enormously increased by reason of the discovery of colloidal clay, as there are many countries which can use colloidal clay which can not use the ordinary china clay. The soap industry will be largely affected, as it is now possible to make soap with colloidal clay instead of oils; and as palm oil has fluctuated in recent years from £60 to £100 a ton and colloidal clay can be produced at £3 to £4 a ton, a great saving should result. Another industry likely to be affected is that of paint. Up to the present it has not been possible to use china clay in the making of paint, but the future holds out great possibilities in this direction."

Aside from the technical and mechanical features of the new ideas of drying in England, which will perhaps not appear so new in this country, there is an interesting suggestion or two in the last paragraph of this report, especially those pertaining to the use of colloidal clay for soap, and the possible use of china clay in the paint industry.

We are rapidly developing new clay properties in this country and not only have hopes that the native resources may eventually supply practically all the clay required both in the matter of quality and variety, but we should be able also through research work to steadily enlarge the uses for clay. And this reference to soap and paint points plainly toward possibilities from research entirely aside from the field we know as clayworking or the production of clay wares proper.

## IMPORTS AND EXPORTS.

While clay products do not play an important part in our big international trade they do amount to something and it is interesting to note that the export trade is growing while we are depending less and less on imports of these products.

The import figures now available from the Department of Commerce for the year 1920 show that we imported china clay during the year to a total value of \$3,572,568, and other clay to a total of \$408,485, making a total just a little over four million dollars for imported raw clay.

Of earthen, stone and chinaware the total imports were \$11,628,234. The main item in this was decorated ware which run about six millions, and of which more than half came from Japan, demonstrating that Japan has taken advantage of the war period to actively push its decorative chinaware. Next to Japan our biggest portion of imports came from the United Kingdom. It is probable, however, that the figures may be changed during the present year and Germany come in for a larger share.

On the export side the total for 1920, which includes brick and tile as well as earthenware proper, amounted to \$9,427,623. This is the largest export figure so far obtained by the clayworking industry, and as will be seen, it falls short of our total imports. It is interesting to note that the major item in this was fire brick, which constituted nearly half of the total export and furnishes evidence that our fire clay products stand high in the world trade. We exported a few building brick, but the other big items in our trade were earthenware and tiles other than drain. We are making some progress in exporting sanitary ware and in a few years this should lead the list of earthenware proper unless meantime we show progress in the dishware branch.

In addition to the clay products we exported raw clay to a total value of \$1,168,399 which brings our total export trade to around ten and a half million dollars and indicates that in a few years we may have an export trade that exceeds the imports.



## INCREASED COSTS IN ENGLISH POTTERY INDUSTRY.

Consul W. F. Doty, of Stoke-on-Trent, reports that manufacturing costs in that center of the English pottery industry have increased enormously over prewar figures. Labor is 150 to 180 per cent. higher than in 1913, fuel 200 to 255 per cent. higher, clay 160 to 250 per cent., cobalt 230 to 566 per cent., flint, glaze, etc., 180 to 330 per cent., crates and straw 230 to 425 per cent., cartage 300 to 400 per cent., saggar marl and firebricks 275 to 290 per cent., and plaster 200 per cent. higher according to data supplied to the consul by the Staffordshire Pottery Manufacturers' Association.

## KAOLIN IN FINLAND.

A recent consular report from Helsingfors tells of the discovery of some kaolin deposits in Puolanka and neighboring parishes of Osterbotten, Finland. It is hoped that these will prove of sufficient quantity to supply most of the domestic needs and a company is being formed to explore the deposits with a view to developing the industry. The report comes from Consul Leslie A. Davis, Helsingfors, Finland.

## WHAT IS PURE CLAY?

Authorities tell us that "there ain't no such animal" as pure clay in the everyday affairs of life, and a pamphlet of the Chas. M. Franzheim Co. is the authority for the statement that pure clay exists only in books, in theory and in the imagination, and that this imaginary formula of pure clay would be, alumina, 39.77; silicate, 46.33; water, 13.90. With this as the theoretical formula for purity in clay, the argument is that the nearer any product comes to this the closer it comes to being pure clay.

## KAOLIN IN AUSTRIA.

The clayworking industry in Austria has been pretty badly disorganized, but there are some encouraging signs now of practical progress toward revival. Consul Carol H. Foster, of Vienna, tells of the recent discovery of some valuable kaolin deposits not heretofore known of. The clay is said to be plastic and very white and suitable for the making of the best varieties of electric porcelain, with a fusing point of 1750 C. Drill tests indicate that the deposit is 36 meters in depth, and it is thought that within six months there will be a production of 300 tons a day of the best china clay from these new deposits. This it is thought will give new impetus to the revival of porcelain making and clayworking generally in Austria.

## SAND-LIME BRICK IN ENGLAND.

Consul General Robert P. Skinner, of London, sends over quite an extensive Consular Report on sand-lime, brick and other concrete brick, which is from British Department of Scientific and Industrial Research. Perhaps the most significant thing about the report is in a prefatory remark which says:

"That for all ordinary uses there is no better building block than ordinary brick. It has been evolved by thousands of years of experience in all parts of the civilized world as the ideal block for hand use." There follows then a description of the making of sand-lime and concrete brick which in the main is familiar to those engaged in the industry in this country. One significant pointer, however, worthy of special notice is one which appears in the last paragraph, and reads as follows:

"For integral waterproofing an 8 per cent solution of potash soap (soft soap) may be used as the mixing water. This develops an alum soap in the body of the concrete, and is better than using a proprietary article of indefinite composition. A solution of silicate of soda (water glass) may be used for the same purpose."

## SEVENTH NATIONAL EXPOSITION OF CHEMICAL INDUSTRIES.

The Seventh National Exposition of Chemical Industries will be held at the Eighth Coast Artillery Armory, New York, during the week of September 12, 1921. Further information can be obtained from the National Exposition of Chemical Industries, 342 Madison Avenue, suite 706-707, New York.

## CEMENT STATISTICS.

The preliminary report of the U. S. Geological Survey indicates that the production of cement for 1920 was 100,302,000 barrels, and shipments 96,329,000 barrels, which was an increase of 24 per cent. in production and 13 per cent. in shipments. The stock of finished cement on hand increased from 5,852,497 barrels at the end of 1919 to 8,290,000 barrels at the end of 1920. The average factory price in bulk at the mills for 1920 was \$2.01, as compared to \$1.71 in 1919. During the year we imported 498,036 barrels of cement and exported 2,985,807 barrels.

## LIME PRODUCTION IN 1920.

Preliminary figures from the U. S. Geological Survey show that the total lime production in 1920 was 3,350,000 short tons, valued at \$33,518,000. This is the largest value on record but the production does not yet exceed the prewar output. The feature of the year was in the unusual increase in what is called dead burned dolomite used principally in lining basic open hearth furnaces as a substitute for calcined magnesite. The quantity of dead burned dolomite recorded for 1920 was 282,209 tons, with an average value of \$11.46 a ton, as compared to an average value of \$10.00 for lime as a whole.

## BRITISH DRAIN TILE NOTES.

Our Consular Reports tell of the final report made under the profiteering act of an investigation of certain branches of the English clay ware industry, including drain, floor tile, etc.

The notations from the report indicate that the drain tile sizes most commonly used are four, six and nine inches. The report brings out some comparative figures on the principal factors regulating cost and prices, which are wages and fuel. Figures show an increase of labor cost ranging from 230 to 250 per cent in comparison with prewar days, and a reduction of working hours from fifty-six to forty-eight hours per week. The fuel cost shows an increase of 275 per cent.

Thus we have in England as in our own country the problem of high labor costs, and high fuel costs, which in turn is accounted for by high labor cost in the mines, on the railroads and in the metal industry. So the problem there as well as here is one which involves deflating some of the high wage schedules if we are to lower the cost of production and get down to solid ground of values.

In promoting the use of clay products on the farm the home is only the beginning. There is the barn, garage, tractor and implement shed, and many other buildings which should be of brick or tile.



## WITH THE GEORGIA BRICKMAKERS.

"Everything is Peaches Down in Georgia."

THE ABOVE REFRAIN is literally true just at this season, at least so it seems to the writer who made a delightful trip from Columbus, Ga., to Macon, with N. B. M. A. President Dunwody in his Packard touring car. Covering a distance of over one hundred miles, we drove over splendid roads nearly all the way lined on either side, and extending as far as the eye could see, with orchards from which a great crop of peaches was being gathered.

The occasion of our trip was a meeting of the brickmakers of Georgia, at Columbus, a fine southern city, with broad thoroughfares lined with immense shade trees and thronged with busy, happy, prosperous people. It is the home of the N. B. M. A. Vice President George O. Berry, who with his sons and neighbors extended the glad hand to the visiting brickmakers, which included almost the entire membership of the Georgia State Association, of which W. E. Dunwody is president. It was the regular meeting of the Association with a special feature of an address by Ralph P. Stoddard, Secretary of the Common Brick Manufacturers' Association. He told of the aims and achievements of that organization in a manner so convincing that all present heartily agreed to join the association and support the work of boosting the brick and tile business through the broad channel of publicity.

The Secretary of the N. B. M. A., Theodore A. Randall, was also given a very hearty welcome and was made glad by a formal motion that all members of the Georgia Association not enrolled on the N. B. M. A. roster should at once take membership. More than half of those in attendance were already members of the National Association, some of them having been actively interested in the association for many years. Among the latter is that nestor of southern brickmakers, J. W. McMillan, of Milledgeville, Ga., who after a half century or more of continuous service is still manufacturing good building brick for his local market. Would there were more McMillans in the industry.

Aside from the talk fest, the most interesting feature of the meeting was a trip to the plant of the Columbus Brick and Tile Company which was recently purchased by Telfair Stockton and Robert Gamble, of Jacksonville, Fla. With characteristic enterprise, they have rebuilt and re-equipped the plant, making it one of the best up-to-date brick and tile plants in the South. Those in attendance were taken to the plant in the outskirts of the city in automobiles furnished by the local committee. All were anxious to see the latest addition to the plant, a Dresler tunnel kiln in which they were burning hollow building tile of the Denison interlocking type. The kiln is a fine piece of construction. The heat is generated in two eight-foot gas producers installed by the International Clay Machinery Company. The brick are first dried in a Rodgers waste heat dryer, another piece of fine construction designed by the L. E. Rodgers Engineering Co., Chicago. There are twenty-eight tunnels, one hundred and twenty feet in length. Each tunnel accommodates sixteen cars which hold one hundred and fifty tile or seven hundred and twenty building brick. The brick come from the dryer bone dry, which is an essential to the successful operation of the tunnel kiln. The mechanical equipment of the plant is first-class in every respect. The brick are made on a Chambers machine, including Chambers pug mills and cutters. The tile are made on machines installed by J. C. Steele & Sons, excepting the cutter which was supplied by the Fate-Root-Heath Company.

The Columbus Brick & Tile Company is one of the most important industries of Columbus, for it supplies building brick and tile for a wide territory in that section. The resi-

dent manager, C. W. Dixon, secretary and treasurer of the company, is an experienced brick salesman, the right man in the right place. They are also making a new form of double hollow brick, which it is thought will fill a long felt want in the way of an economical building material, and materially aid in meeting the competition of frame and cement construction.

The meeting was a one-day affair, so there was no time or



"Georgia's Grand Old Man," J. W. McMillan, Milledgeville, Ga.

opportunity to visit any of the other local yards. Mr. Berry said there was nothing at his plant of a new or novel nature. He is pursuing the even tenure of his way, making good building brick, just as he has been doing for lo, these many years. His many friends in the N. B. M. A. will be glad to know he is hale and hearty.

It is said that next to the wheat crop, our potato crop is the most important to mankind.



Written for THE CLAY-WORKER.

CINCINNATI BRICK AND BUILDING NEWS.



THE VERY best that can be said at this time regarding the building industry in Cincinnati, is that the number of residences that are now being gotten under way, and planned has shown a very much more hopeful sign in the past month or six weeks. This was very noticeable in the month of May, as the report of the Building Commissioner, George R. Hauser shows. In that period there were builded 138 homes. Of this number fifty were brick residences, with an estimated value of \$369,000. During the same period 190 garages were builded, with a valuation of \$90,400, and one warehouse costing \$36,000. The number of permits issued for the same month amounted to 1,553, with a total valuation of about \$2,136,495, as compared with 1,346 permits for the same month last year, costing \$1,371,510.

The open shop idea has been given full approval by the Cincinnati Chapter of the American Institute of Architects at a recent meeting. In the opinion of the members an owner should have the right to award his contracts under conditions that meet with his approval, and not those of organized labor. The following resolution was adopted after some discussion:

"Whereas, We recognize the right of the individual to work for whom he desires, and also recognize the right of the employer to hire whom he desires, as being the only basis for employment in accord with American principles and constitutional rights, and, as we understand these to be the fundamental principles of the open shop movement, therefore,

"Resolved, That the Cincinnati Chapter of the American Institute of Architects indorses such principles and lends its full support to bringing about such conditions."

The belief was expressed by the members that the general adoption of the open shop plan would eliminate jurisdictional disputes, which are costly to labor as well as to the owner.

It is estimated that a saving of from 15 to 20 per cent on the cost of foundation work in connection with the construction of modest homes will be made possible through the use of hollow tile and hard brick, which is at present not permitted in this city on account of the building code, but which it is hoped may be changed in the near future. According to the recommendations by the Mason Contractors' Association, which were submitted to the Building Commissioner and to residential builders, too, and which have been given general approval, it is likely that the code will be changed to meet the new conditions. In the opinion of Mr. Hauser this kind of material is permitted in the northeastern part of Ohio, and it seems to have been giving satisfaction. The following is a resume of the plans as suggested by the association:

To permit the use of 8-inch hollow tile foundations for one-story frame residence, 8-inch hollow tile foundations for two-story frame residence, 10-inch hollow tile foundations for one-story brick residence, 10-inch hollow tile foundations for two-story brick and frame residence, 12-inch hollow tile foundations for two-story brick residence, 9-inch hard brick foundations for one-story brick residence.

Brick walls as above to have a 17-inch by 4-inch pilaster every 20 feet where the wall is not intersected with cross walls, chimney breasts or abutments of a nature to strengthen wall; 9-inch hard brick foundations for one or two-story frame residences, pilasters to be as above; 9-inch hard brick for foundations for residences of one-story brick and second-story frame; 4-inch by 5-inch by 12-inch hollow tile of one cell for backing of brick walls in residence construction.

Hollow tile for foundations shall stand test of not absorbing more than 8 per cent of their weight in water.

Vitrified hollow tile, however, it was pointed out, would not be generally authorized as a foundation material where the house is being built on filled ground. Tile, as a substitute for concrete and stone, it is claimed, could be laid up quicker and at less expense.

Some changes have been made here in the plans of the building organizations that will be of material benefit. It is now believed that within another month the building construction employers in the Cincinnati district will be under one head. The adoption of a new plan for combining the Builders' Exchange and the Building Construction Employers' Association into one body has been approved by both organizations. It is believed that this will be a material help in the matter of construction work. The new organization will be known as the Associated Building Industries of Cincinnati and Vicinity. Its headquarters will very likely be at 614 Race street, the home of the Builders' Exchange.

A group plan for an apartment building to cost about \$250,000 has been started by the Justus Realty Company, who has awarded a general contract for the work to Max Penker and Sons. It will be located on the south side of Dana avenue, 300 feet east of Reading road in Avondale. The building will contain forty-eight apartments of the three-room type, with six-room efficiency, the latter being made possible with the built-in features.

C. C. and E. A. Weber, architects, have plans under way for an efficiency apartment building to be constructed on the west side of Clifton avenue, 240 feet south of Probasco avenue, which it is expected will house eighty families. The same architects have plans under way for twenty buildings that will be built at the northeast corner of Reading road and Shillito street. The idea is to have the homes on an inner plot and stores and flat buildings on the main streets. Plans have been completed by the same architects for a three-story store and office building at Logan, W. Va., for J. A. Washington, 35 by 97 feet, and a fire proof hotel to be built at Harlan, Ky., of 120 rooms. It will be four stories, 50 by 140 feet, and owned by the Belmont Hotel Company.

Plans for two school buildings to be built at Xenia, Ohio, have been completed and bids are to be received this month.

The situation as noted by the Purcell Brick Company has become very much better in the past month or so. There are now a number of orders on hand for brick, and some of these include a seminary and five school buildings. There has been a notable increase in the demand for brick for residences in this section of the state.

Business in the brick line and allied lines has been very fair with the Moores-Coney Company, and while the improvement is promising, it is by no means rushing. There has been a more active tone noted, and this is an encouraging sign.

The Cincinnati Clay Products and Supply Company do not find the brick and kindred lines to be very good as yet. The conditions are better in the way of residential work, but otherwise the situation is not very brisk. None of the company's brick plants have been started as yet, as the demand for common brick has not been very promising.

The report with the Builders Material Company is that the building conditions are fair, and that there is something being found at all times, but the trade is still less keen than it could be, the largest number of orders being for brick for residence.

The D. C. Shorey Brick Company say that the situation has been only fairly active of late. The demands for brick are moving somewhat slowly, and aside from residential work there appears to be nothing of moment.

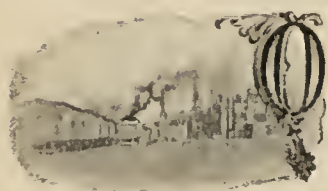
CINCY.

Chemical porcelain is one line of clay products which shows a healthy growth over pre-war days.



Written for THE CLAY-WORKER.

### THE PHILADELPHIA MARKET.



NE-SEVENTH of the pre-war average of 7,500 dwellings a year will be built in Philadelphia this year according to indications at present which place the probable total for this year at 1,000. Last year there were 1,200 dwellings built here. Several conditions are responsible for the decrease in home-building, but the main one, as in communities throughout the East, is the unsettled and unsatisfactory condition of the building trades and labor relations.

Another condition contributing to the slump this year is the extensive operations of real estate operators who have bought many of the old, roomy houses for which Philadelphia is noted and converted them into apartment houses, hiring all kinds of labor to do the work. More alterations and additions have been made this spring than ever before. Figures of the Bureau of Building Statistics tell the story.

Permits in May were granted for 158 garages, 280 additions, 473 alterations and repairs, 217 miscellaneous jobs and 99 signs, making 1,227 operations of the total of 1,430 operations for the month, which includes 138 dwelling permits and 65 other permits. Until May there was little activity in the dwelling line. The total for the year is only 538 for dwellings. Remodeling, however, requires clay products and manufacturers and builders concerned with these products are no more seriously affected by the building depression than other trades. Lumber dealers are more seriously affected and what business they do is almost entirely out-of-town business.

No one can be pessimistic with his office filled with plans for new jobs. And architects have been turning out blue prints for construction work of every description since 1918. In some cases contracts for very large undertakings have been awarded and even at the current prices of materials owners would go ahead with work if contractors could assemble their forces and guarantee completion before a certain time. The attitude of contractors is essentially optimistic because they know that there is millions of dollars worth of work awaiting them. Municipal work alone aggregates \$100,000,000, it is estimated.

Contracts for a \$100,000 brick garage, for stores, tenements, apartment houses, and moving picture theatres were awarded the first week of this month in Philadelphia. In Hatfield, Pa., contemplated work includes a consolidated school building to cost \$120,000; in Milton, Pa., a \$125,000 school; in Paxtonia, Pa., a \$75,000 school; in Harrisburg, a \$200,000 school and a \$1,000,000 brick and tile high school; in Brookline, Pa., a \$30,000 school. A large appropriation of money for educational purposes has been made by the state and many more school buildings will probably be built.

Contract for a \$50,000 brick office building has been awarded in Harrisburg and similar undertakings were started in many sections of the state in May. A vitrified brick road to cost \$288,000 in Fayette County and a concrete and brick road to cost \$162,000 in the same county were contracted for last month.

Irwin & Leighton, Philadelphia contractors, have been awarded a \$700,000 contract for an addition to Hotel Shelburne at Atlantic City. The addition will be made of brick, terra cotta, stone and steel and will have a roof of Spanish tile. Several theatres, garages and office buildings are being planned for New Jersey and also a large bakery at East Orange, and a nurses' home, Trenton.

The list of planned construction grows much more rapidly than the list of started construction. The Stanley Amusement

Co. of America announced recently the proposed building of another moving picture theatre and office building in the heart of this city. Other buildings of brick in Philadelphia now being considered by estimators include a church, Sunday school and gymnasium, a library, bacteriological laboratory, incinerating plant, dining hall, factory, and many garages, stores and residences.

Building activities in Baltimore during January, February, March and April show a total of \$15,386,550, against \$12,535,950 for the same period in 1920. The four months of 1921 included factory and warehouse permits totaling \$6,797,000, as compared to all of 1920 at \$7,295,600. That city is one of the most active along the Atlantic seaboard.

Eight new hotels and additions to two others have been planned for cities in this state and work on four of the new structures is now going on. The Penn-Alto, Altoona's new hotel, will be completed in July. The Penn-Harris has purchased additional land to provide about 125 rooms extra and there are rumors that the Dupont interests are negotiating for the purchase of a site in Harrisburg. Excavations are being made for a new hotel at Williamsport and Phillipsburg is building a new hotel. Coles Hotel at Wellsboro is being remodeled into the Wellsboro Inn.

Two giant projects which will mean much to constructional Philadelphia will be the Delaware River Bridge and the Sesqui-Centennial Exposition, planned for 1926. A great arch, rivaling the Arc de Triomphe in Paris, will arise on the Parkway. A bridge and boulevard with a cascade, a magnificent art gallery, municipal court buildings and a great free library are some of the proposed structures.

The trade is eagerly anticipating the annual convention of the National Brotherhood of Operative Potters to be held at Atlantic City, July 7. Delegates will take up the terms for the annual wage agreement with manufacturers and a fully-empowered committee will meet later with a committee from the manufacturers to make final settlement. The yearly contract goes into effect October 1.

THE QUAKER.

### MISSOURI BRICK PLANT TO BE ENLARGED.

The Johnson County Brick Co., west of Knob Noster, Me., will soon enlarge and improve its plant until the daily capacity can be increased from 30,000 to 50,000 brick a day. One updraft kiln, with a capacity of 330,000 brick is in the course of construction. A large amount of new equipment is being installed and a gas locomotive will be purchased with which to transport the raw material to the plant.

The plant now has five down-draft kilns with an average capacity of 75,000 bricks, and one up-draft kiln with a capacity of 330,000 bricks. The improvements as planned by the company will not only increase the capacity but will provide for the manufacture of a higher grade of bricks.

Just recently the corporation was reorganized with the election of the following officers: President, W. J. Mayes; vice-president, G. C. Stephens, Kansas City; treasurer, Frank L. Mayes; secretary, S. C. Garrett. All officers also are members of the board of directors.

The company is now capitalized at \$125,000 of which \$100,000 is common stock and \$25,000 preferred stock. The monthly payroll averages \$6,000, forty men being employed. Joseph G. Reppell is superintendent.

At present the plant is turning out common and matt face bricks of variegated colors. The kilns that will be installed and the new machinery will enable the firm to manufacture high-class face and fire brick. Plans also are being made to manufacture hollow tile at the plant in the near future.

The business at the factory is most satisfactory at the present time and enough orders are being received to keep



it going. With the resumption of building operations in Missouri, due to readjustment and lowering of wages and building material, the outlook appears promising for the next year.

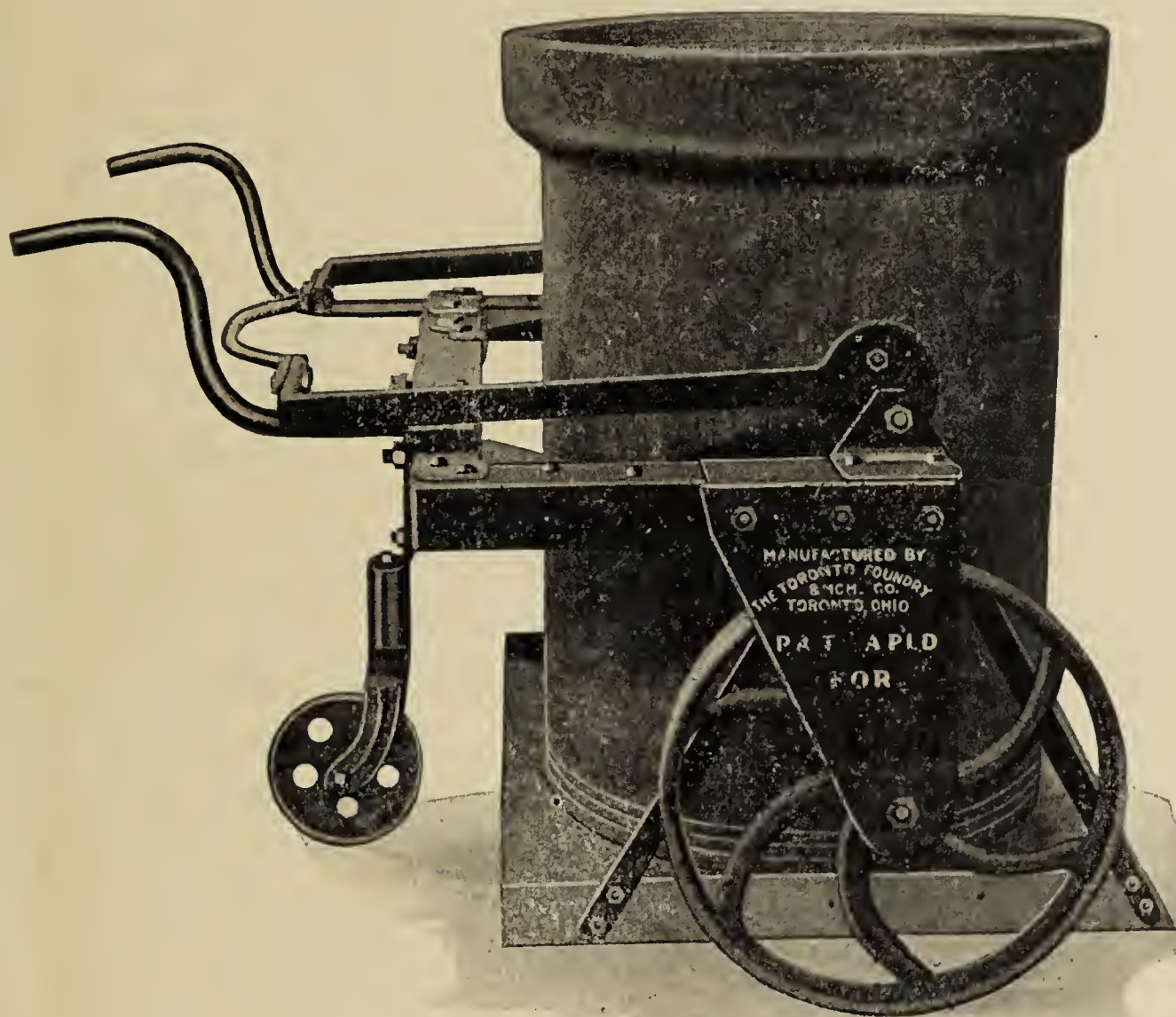
#### THE "ONE MAN TRUCK" ON THE SEWER PIPE PLANT.

THE Toronto Foundry and Machine Co. of Toronto, Ohio, is experiencing quite a demand for their "one man truck," which has become popular on sewer pipe plants. Quite a number of sewer pipe manufacturers are using this truck and find it a great labor-saving device, for it absolutely replaces from three to four men and occupies one-third the space required by trucks used for the same purpose. Placing this truck in the plant requires no special shods or boards. A fleet of these trucks will save much time in getting the pipe away from the press.

#### MID-SUMMER MEETING OF A. C. S. TO BE HELD IN OHIO, JULY 25, 26, 27.

THE SUMMER MEETING of the American Ceramic Society is to be held at Canton, Alliance, Sebring, and East Liverpool, Ohio, July 25, 26 and 27, with headquarters at the Hotel Courtland, Canton, Ohio.

The Deuber Watch Case Company and several ceramic plants in Canton will be visited on Monday, the 25th. In the evening a banquet will be held at the Country Club. Tuesday will be devoted to a visit to ceramic industries in Alliance and Sebring, where the members will have opportunity to inspect modern methods of burning clay wares, from brick to high grade dinner ware. Tuesday evening a theatre party at Myers Lake, followed by a smoker, will be one of the social functions of the meeting. Wednesday will be spent in visiting places of interest in the East Liverpool district.



The "One Man" Invincible Sewer Pipe Truck.

The main advantage is these trucks are: Little or no repair: Being made of steel, they stand the hard usage to which trucks are subjected. Ease of operation: Roller bearing wheels and small castor wheel permit of easy turning and moving. Small effort required to raise pipe from floor: The long lever with fulcrum point situated as it is allows of very small force applied by the operator. The absence of trigger: The arrangement of handle and the location of center of gravity prevent lever from releasing. Small space required to turn truck: The truck can be turned in its own space, thus making it an ideal truck for use around pillars and in narrow sections.

Much valuable information concerning this and other styles of truck, also wheel-barrows and cars is given in Bulletin T-1, recently issued to the trade by the Toronto Foundry and Machine Co., Toronto, Ohio.

Special arrangements for the entertainment of ladies who accompany members to the meeting are being made by the committee.

A large attendance is expected and in order that the committee may have ample time to arrange for transportation, hotel accommodations, etc., those anticipating attending should notify the committee at the earliest possible date.

It is to be regretted that the proposed boat trip down the Ohio could not be included. It was thought inadvisable to forego his pleasure in view of the uncertainty of river conditions and the limited time available.

For the information of those members who wish to take this trip down the river as a part of their vacation, the Steamer General Wood of the Liberty Transit Company, Pittsburgh, Pa., leaves Pittsburgh at 4 p. m. on Fridays, and is due to arrive in Cincinnati Monday mornings. The fare from Pittsburgh to Cincinnati is \$16.00 including berth and meals.





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

#### Water Freights Back to Normal.

Dear Mr. Randall:

Your query at hand. For many years the bulk of our business was done in the vicinity of the west coast of Florida. Water freights have gone back to almost the same point they were in those days, so with the exception of the advanced cost of manufacture at the yard we are able to make shipments at a comparatively much lower price to this locality than any other concern in the business.

We have been very busy all spring and still have enough business for several months to come. The prospects for the fall and winter, however, do not look so encouraging unless financial matters, such as the sale of bonds, etc., very much improve. With improvement in the bond situation we look for a number of years of extremely prosperous business in this territory.

Very truly yours,

JOHN W. HALL, President,

Baltimore, Md.

Westport Paving Brick Co.

#### From an Englishman's Viewpoint.

Dear Mr. Randall:

I have been somewhat remiss in writing you, and even now cannot just find time to write you of all the things I should like to talk about.

We are hearing a great deal over here of what America thinks about us, and especially about the Irish question and I have been very gratified to read letters from prominent Americans, which show sympathy with us in all our difficulties and a spirit of friendship. Some people only read letters written by aliens, probably living in New York, who have no claim to be called Americans in any sense of the word, and whose opinion and expression are not conducive to good-will between us. Don't be misled on your side by similar articles from this country. The closer the bond between us, the better for the rest of the world.

Wages are going down here this month for the first time in this business, since the war started, and there should be a terrible boom here if the nation would only make up its mind to settle down even for a brief period and work, but at present the order of the day is strikes.

The trouble in Dublin, Ireland, has not abated at all. A section of Ireland demands an Irish republic, which could never be unless the whole island could be removed some thousands of miles from our coast. You can see that this is quite impossible, and the solution is very difficult.

I was most interested in your convention report, and imagined what a good time you would be having.

I will be glad to see Vice-President Burton if he comes this way.

We are doing quite well in the hollow tile business, and I really hope to give you an odd photograph or two soon.

I am keeping quite fit. I thank you for your wishes, and I fully reciprocate them; as they say here, "More power to your elbow."

Very sincerely yours,

Manchester, England.

SIDNEY E. HIGGINS.

#### A New N. B. M. A. Member Makes a Plea for Lower Freight Rates.

Dear Mr. Randall:

We have your letter with invitation to join the National Brick Manufacturers' Association and are pleased to enclose check for \$10.00 and application.

Do you think we will get in the near future a lower freight rate on fuel and brick. We are especially interested in a short haul. Until the beginning of the war, we had a rate from our yard five miles south of Martinsville, of 50 cents per thousand brick. This was a very satisfactory rate, though possibly it gave no profit to the railroad company. However, for the past three or four years, until this year, we were able to sell all the brick we made and sometimes had a good trade at a point three hundred miles from our yard. This year competition is so close, we have very little trade except to near-by points and these points are using more brick than usual this season.

As a war measure, and to encourage hauling by trucks, the railroad company advanced the rate \$1.00 per thousand and made it apply to short or long haul. Later on they added another twenty-five cents, making the freight rate at this time \$1.87½ per thousand brick as compared to fifty cents before the war. Our brick weight five pounds, and until the roads are finished and the bridges strengthened, we cannot haul by truck as cheaply as the present freight rate. The N. & W. R. R. Co. does not give us much encouragement as to reduced rate, but they are looking into the matter. If we could get a rate of at least \$1.00 per thousand for a four or five mile haul it would be of great advantage to us in our trade at near-by points.

Yours very truly,

Martinsville, Va.

WILLIAMSON & HEDGEcock.

#### The Brick Hollow Wall Vs. Hollow Tile and a New Scheme for Moderate Cost Buildings.

Editor The Clay-Worker:

Have been reading with a good deal of interest in your last numbers in regard to hollow wall construction, also the interesting letters about changing size of standard brick, making it larger; also the changing of the laying of the brick from the old style to the laying of brick on the edge, thereby destroying the beauty of common brick and all grades of face brick. We challenge the argument that this wall is cheaper constructed than the wall laid flatways and showing the true beauty of the brick as they should be shown. In the first place, brick that are laid with the side to act as face, the labor in laying those brick in the wall for bricklayer is twice what the labor on the other construction is. Then take into consideration also the loss in the appearance of the building, you are getting a cheap job as you say, and you consequently must and will have to sell cheap, for there never was a job done that was done half way that got its market value when it was sold.

We doubt very much whether making the brick larger than standard size would help matters any, and as far as hollow tile is concerned, we believe that we have a scheme where hollow tile will have to reduce their cost considerably. In the first place, we have figured a 9-inch wall for a bungalow, if proper mortar and cement was not used on the outside there would be some dampness that would show. Now Mr. Brickmaker, we have experimented with three bungalows built with a 9-inch wall. We have left an inch and a half air space from foundation to top of wall, laying the last course under the roof a header course spacing about one-inch apart and filling with mortar so that the air space is left open. In laying this wall we have used the steel corrugated tie, laying one foot apart in the wall and every



five courses in height. There is no headers in any of these buildings and absolutely no possible chance for dampness, and a 9-inch wall laid in this way will answer the same as a thirteen-inch wall laid the old way. We know that this wall can be laid any thickness by increasing the size of the steel tie. This not only saves the cost of building 13-inch walls, or using tile to back up with and in our opinion makes it a whole lot drier building than any hollow tile building that was ever built.

The first building to be built this way was built by J. J. Miller, general contractor of Scott County, Missouri, brick work being done by Joe Mirgaux, and from time kept on the work, it has been laid up fast and has given perfect satisfaction.

The metal tie is cheap and I think the scheme is good and offers a form of cheap construction that builders will find satisfactory in every way. Will be more than glad to answer any and all questions that anyone interested should see fit to ask.

Yours very truly,

C. H. DOLAN, Superintendent,  
Illinois Pressed Brick Co.

#### ALABAMA BRICK MANUFACTURERS MEET AT BIRMINGHAM.

THERE WAS A MEETING of the Alabama brick manufacturers at Birmingham in May attended by a number of notables in the trade from adjoining states, namely, Fritz Salmen, of New Orleans; Howard H. Stafford, of Augusta, Ga.; Ralph P. Stoddard, of Cleveland Secretary of the Common Brick Manufacturer's Association, and Theodore A. Randall, Indianapolis, Secretary of the National Brick Manufacturers' Association. L. L. Stephenson called the meeting to order and entertained the visitors by a series of most amusing bits of personal experience in early association work. "Master" John W. Sibley, Treasurer of the N. B. M. A., added his voice to the deliberations. He is gradually recovering his wonted health. The consensus of opinion seemed that the building industry will soon resume normal activities. At the present time brick and tile plants in the South are operating to fifty or seventy-five per cent. of normal. It was thought with the settlement of labor troubles now under way there would be a decided improvement in the industrial situation, particularly the building line.

#### THE JOVA BRICK COMPANY INTRODUCES AN INNOVATION ON THE HUDSON RIVER.

THIS SAID THERE is nothing new under the sun. Were this literally true there would be nothing new in brick-making, for it is the most ancient of industrial arts, and we all know there are many new things in brick plant equipment coming along all the time. The latest is an innovation at the plant of the Jova Brick Works, Roseton, N. Y. For some time Mr. Jova has believed it is just as feasible to mold eight brick at a time as a less number, and so he gave an order to the Lancaster Iron Works, Lancaster, Pa., for the molds and other necessary attachments, and on getting under way finds "it works to a charm," so to speak.

Last February Mr. H. J. Jova, who, by the way, is New York State Vice-president of the N. B. M. A., equipped his building brick plant with a new granulator and clay feeder for mixing their clay, with which is added sand and coal dust. He also installed an improved Arnold-Creager automatic soft mud brick machine and a Martin steam pipe rack brick dryer. Mr. Jova states they are operating the machine at a speed of twenty-one pallets per minute, which gives them an output of a

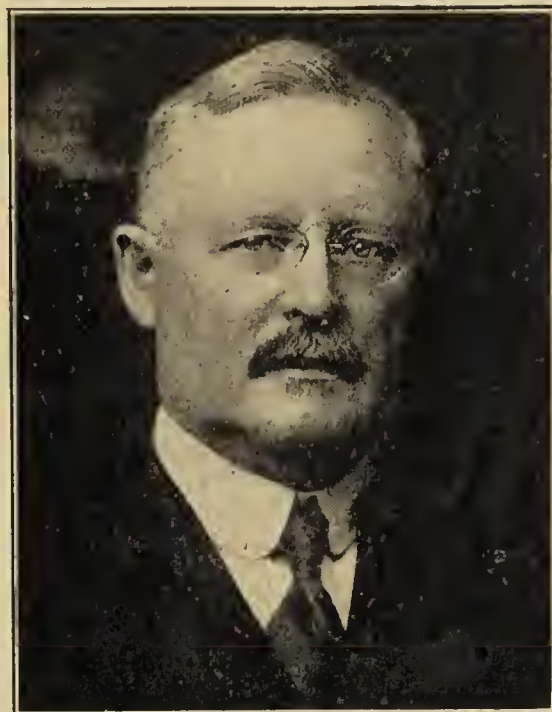
little over 10,000 brick per hour, something unheard of heretofore among the Hudson River brick plants. It is believed to be a world's record for a soft mud machine. Mr. Jova further states he has experienced no mechanical difficulty in making eight brick to the mold and they are just as good brick in quality as when they made six brick per mold.

When one can increase capacity and quality both there is reason for congratulation, so we tender the palm to Mr. Jova as a progressive disciple of the ancient craft.

#### NOTED CLAYWORKER JOURNALIST.

Walter S. Dickey Buys Kansas City Journal, the Oldest Newspaper in That City.

AS ANNOUNCED briefly in the May issue of The Clay-Worker, Walter S. Dickey, of the W. S. Dickey Clay Mfg. Co., Kansas City, Mo., in addition to his other immense business interests, has acquired the Kansas City Journal. Mr. Dickey has long been a leader in the Republican party in the "Show-Me" State. In 1916 he was a candidate for the United States Senate, carrying 110 of the 114 counties in



Walter S. Dickey, Kansas City, Mo.

the primaries. Mr. Dickey is now Chairman for Missouri on the National Budget Committee, and those who know him personally predict he will go to the Senate or higher up in the not distant future, and the fact that he is now proprietor of the Kansas City Journal will add considerably to his political prestige.

As president of the W. S. Dickey Clay Mfg. Co., he is known to the clay craft throughout the Nation. It is claimed he is the largest individual manufacturer of clay products in the United States, and he has gained an enviable reputation as organizer of big business ventures.

#### LINCOLN HIGHWAY STATISTICS.

Lincoln Highway statistics show that the total mileage of this great roadway across the continent is 3,305 miles. Of this total 2,853 have been improved and there is included in these improvements 219.68 miles of brick surfaced roadway. Of other special surfacing the statistics show concrete, 422.34 miles; bit. macadam, 418.81; macadam, 287.10; asphalt, 78; creosote block, 5; granite block 7. The balance of improved roadway being graded gravel, natural gravel, graded earth and natural earth.





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THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 75. June, 1921. No. 7.

CURRENT COMMENT.

The building business is picking up.

\* \* \*

Coal is now plentiful but the price is still burdensome.

\* \* \*

Pyrometers are playing an important part in putting more positiveness into burning.

\* \* \*

Terra-cotta is the natural and logical trim to go along with brick, and it is refreshing to see an awakened interest in its use.

\* \* \*

The brick trade has been a little slow about taking up with trucking, but this modern delivery implement is coming along rapidly now in the trade.

\* \* \*

The railway folks now have a press-agenting outfit which is putting out too many pleas and excuses and not enough in the way of reports of actual accomplishments.

\* \* \*

The average shipper does not see much encouragement for lower railway freight rates under existing conditions, but that does not alter the fact that we ought to get better service for less money.

\* \* \*

The present indications point toward the latter half of the summer using up a goodly volume of brick and hollow building tile. Those who are stocked up and ready to supply the trade will likely profit most.

\* \* \*

The man who figures only the coal used in kiln burning is not getting the full measure of his fuel consumption, because

he must include power for the plant and for digging and transportation.

\* \* \*

In the drain tile business there is a plainly marked tendency toward larger tile, toward a wider use of five and six inch sizes.

\* \* \*

One of the cheerful predictions going the rounds is that when the vacation season is over industry and business will pick up to full speed ahead.

\* \* \*

We are now going through a testing period in business management that may prove trying to some but in the end may be beneficial to all of us.

\* \* \*

There is quite a lot of testimony coming in to the effect that the eight inch wall of either brick or tile is a mighty good wall for home building purposes.

\* \* \*

The fullers earth production in 1920 was 128,447 short tons, valued at \$2,506,189, or \$90.51 per ton. This is both the largest output and largest price on record for fullers earth.

\* \* \*

Some people seek to sort out a standardized color effect in brick while others seek for beauty through variety and indiscriminate mixing of the many colors that will burn together.

\* \* \*

A recent race war outbreak reminds us that there were two periods in the history of the world when we had no race antagonism. One was when Adam was still a youngster, and the other was when Noah landed with the ark.

\* \* \*

Two important factors contributing to more clay products are, the need for fire prevention, and in the rapid depletion of our forest resources. And, no matter what the ups and down may be now, it is plain that the clayworking industry has a big future before it.

\* \* \*

We are told that medical science has discovered a way to speed up the growth and maturity of man. Now if they will just discover some way to speed up the slow pokes who have already grown up and make them move faster there will be more building and a greater demand for brick.

THE CHEAP HOMES.

There is quite a lot of exploitation of small, cheap homes, some in concrete, some in lumber and some in steel, and there is an interesting question of how much they will figure in the housing problem. There will always be some call for cheaper houses and also call for portable and temporary housing structure, but seemingly the volume of this business is limited. The average thoughtful home builder is now more inclined to build than ever before to build for permanence and to build with brick or hollow building tile. The lower costs will help some in stimulating such building, but the higher cost of building generally, while it turns some to seeking the cheap flimsy homes, makes even this cost so much that it strengthens the disposition of the thoughtful builders today to pay a little more and build for permanence.

SPARKS ON ROOFS.

The official publication of the National Board of Fire Underwriters in reviewing five year's senseless waste in fire losses makes a number of specific classifications of causes for



fires, and among them is one called "Sparks on Roof." The figures in this case show that the five-year aggregate of fire losses due to sparks on the roofs amounted to \$29,271,585, which was at a rate of \$5,854,370 a year. The largest loss of this kind was in Illinois, the next was in Michigan and Indiana in the order named. Comparatively speaking, however, the losses as compared to other fire losses were greater in some of the southern states where a larger percentage of the buildings are covered with wooden shingles. The record in fire losses through sparks on roofs is gradually leading to a substitution of other roofing material for wooden shingles, but unfortunately not enough of this other roofing is clay tile. The composition roofing people have profited more from the opportunities here than anyone else, and this is due in quite a measure to their enterprise in developing their product and going after business. Why has the clayworking industry not done more along this line?

#### JUGGLING WITH BRICK PRICES.

It behooves the brick industry to stabilize the prices on its products on as low a level as is consistent with fair returns for the industry. The base of brick prices properly is the cost value at the brick yard or plant. Brick prices at the yard and brick prices delivered at the job are two different things, because generally there is involved handling and transportation. This makes some room for juggling in brick prices. Where one may quote prices delivered, another may quote a lower price, yet have his price based on the yard and his charge for delivery may bring his price up to or above the others, which may seem higher. Also there are times when people with only small quantities of brick make sensational cuts in prices to move them and thus establish an idea in the public mind that all brick prices are down to that level. There are various news reports indicating some confusion and price juggling in the general readjustment of things and where these are misleading they are to be deplored. Clay products are properly a time-honored staple and the more square dealing and the less price juggling we have in marketing these products the better it will be for all in the long run.

#### WAGES AND BUILDING SPECULATION.

Most of the speculation being done nowadays in the building world is mental speculation as to what the wage-earners may continue demanding for their work. Workmen are putting in better licks, but they are insistently demanding such high wages that it is some brake on the progress of building operations, and this is said to be discouraging speculative building and to be holding in check somewhat necessary building.

It is perhaps safer to say that the high cost discourages investment building. The realty men and the men who build homes to sell at a profit are doing some building, not as much as there would be if wages were lower, but they are doing some. The men who are holding out of the building game strictly are those who might be induced to erect apartment houses and buildings for purely investment purposes. Under existing conditions as to cost the returns from such an investment do not look inviting, and men with money prefer to invest it in mortgages of home builders and in various other ways than in erecting buildings for rent.

In some parts of the country there have been wage readjustments that help a little, but in too much of the country there is still an insistence on high wage rates that it is thought is out of proportion and which holds in check many building projects.

#### WHAT IS OWING TO US.

A recent compilation by the Secretary of Treasury of the world's debt to the United States shows ten billion dollars advanced as war loans, and three billion dollars due the government for surplus war material sold abroad. In addition to this indebtedness to the government itself it is figured that three billion dollars are owed to American exporters and that there is two billion dollars invested in bonds of foreign governments and in foreign corporations. This makes a total of eighteen billion dollars on which it seems that the interest amounts to a billion or more a year.

#### COMPARISON OF BUILDING PERMITS.

Statistics of building permits today compared with a year ago are not much indication of progress unless one takes into consideration the difference in cost represented. In fact there is so much variation between the costs today, the costs a year ago, and the cost in prewar times, that any comparison of building statistics with other years is more confusing than enlightening, especially when the element of value is used as a basis for comparison. As we settle down to normal basis comparative figures from now on will furnish some enlightenment, but there is not much gain in the way of specific records of progress in the comparison of building permits issued now with those of one year ago. A five or six year average is a better standard to measure by.

#### SOME WAGE COMPARISONS.

Perhaps the most startling comparison made of the pay received by railway men and people in other callings is that made by Fitzgerald Hall, counsel for the N. C. & St. L., who demonstrated that the engineer on the Tullahoma accommodation receives \$4,371.92 a year, or \$371.92 more than the Governor of Tennessee. He also pointed out that high-school professors in Nashville get \$250 a month compared with yardmasters at \$305. Another case is mentioned of a conductor on the Rome short branch, eighteen miles long, who gets \$5,735.88 a year. The engineer on the Rome branch gets \$5,997, while the judges of the Superior Court of Tennessee get \$5,500. Also it was pointed out that the negro flagman and porter on the Columbia-Decherd branch gets more than the district attorney of Tennessee. This is perhaps the most striking comparison yet made, but the country as a whole has long realized that employes on the railroads, in the coal mines, and in some of the metal industries, are getting paid out of proportion to that of other industries. It takes too much of the labor of the men in other lines to pay for a day's labor of those in these lines.

#### AMERICAN ARCHITECTURE.

The claim for architectural supremacy for the city of New York which was made recently in a newspaper story by Architect Andrew J. Thomas is a reminder that we are developing what will eventually go down in history as American Architecture. Our architects have looked to old countries for their first ideas, but the present generation has developed many new ideas, and in time we are likely to get entirely away from the older ones.

Not only did America create the skyscraper, which involved an entirely new departure in architecture for which we had no early examples to draw upon, but America has also developed the factory buildings. There are more big factory buildings in the United States than anywhere else in the world and of late years we have been developing in con-



nection with these some architectural beauty and this may be classed as original architecture just as the skyscraper may be classed as originating in the United States.

In addition to all this, to the development of skyscrapers, architecture and architectural beauty in factory buildings, the architects of the country are gradually developing their own ideas of residential architecture so that out of it all we are moving steadily toward a true American type of architecture which will take its place in the history of the world.

#### WAGE COSTS AND MATERIAL COSTS.

A member of the "Economic Staff of Forbes" in making a study of lowering costs to restore profits, compiled some figures on the average labor and material costs in a number of important industries. First he says that taking industry as a whole costs are made up chiefly of wages and materials. In food products he represents the labor item as only 4.82 per cent., while the material cost is 79.48. Stone, clay and glass are grouped together and given a wage cost of 33.44 per cent. and a material cost of 37.87 per cent.

Evidently in this material cost is included fuel, which to quite an extent is a labor cost. Labor and fuel are the dominant cost items in clayworking.

They figure that the actual decline in cost in this industry at present is about 25 per cent. The problem today is how to further reduce this cost without further reducing labor cost, which is a big item in the industry. It calls for study directed toward better management and ways and means for reducing overhead and other items of cost involved in keeping with reduction in labor and material cost.

#### OBITUARY.

##### DEATH OF MRS. FRANK L. HOPLEY.

The many friends of Frank L. Hopley, who for many years has been advertising manager of the American Clay Machinery Company, Bucyrus, Ohio, will learn with deep regret of the death of his wife, which occurred at their home June 15, after an illness of nine weeks from Myo-carditis. While her suffering much of the time was acute, Mrs. Hopley made a brave fight for life. Mr. and Mrs. Hopley were married in 1917 and Mrs. Hopley, through her sunny disposition and unfailing courtesy, had endeared herself to a host of friends in Bucyrus.

##### DEATH OF HENRY HOLZ, BRUNO, SASKATCHEWAN, CANADA.

Henry Holz, one of the best known clayworkers of the younger generation in the United States and Canada, passed away on May 2nd at General Hospital, Winnipeg, Canada, of severe attack of erysipelas and was buried on May 4th, at Bruno, Saskatchewan. He was a man of unusual ability and his grief stricken family and friends and clayworkers in general have lost a useful citizen and loyal father and husband. He was young in age but old in experience and his opinion on big subjects in the clay manufacturing was given lots of consideration, having been in the manufacturing for twenty-five years in various parts of United States and Canada.

Mr. Holz's aged father, F. Holz, also a brick maker of a generation, passed away thirteen days later at Bruno, Saskatchewan, after a useful career. They were associated together in brick works at Grangeville, Idaho, for a number of years until their factory was destroyed by fire about ten years ago and was never rebuilt. They afterwards moved

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to Texas, where they spent a number of years with large manufacturing concern and then moved to Bruno, Saskatchewan, where they had charge of the manufacturings end of the Bruno Clay Works.

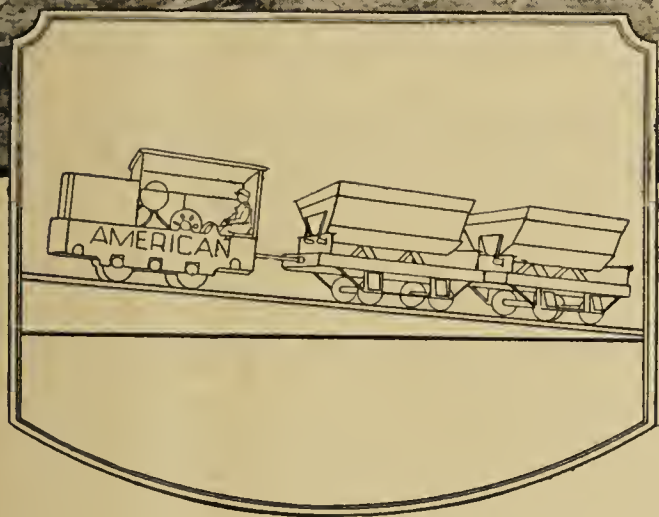
#### SMILES AND SMILES.

The Standard Dry Kiln Co.'s latest Book of Smiles is just off the press. This, their May-June issue, is brimful of good things, so we have enjoyed many a hearty laugh from the reading of the cracking good jokes and sayings contained in same. One that appealed to us strongly was the following:

Somebody sent the editor of the Tailholt Gazette a few bottles of raisin-jack on the same day that he received for publication a wedding announcement and a notice of an auction sale. In that day's issue appeared the following: "Wm. Smith and Miss Lucy Anderson were disposed of at public auction at my farm one mile south of a beautiful cluster of roses on her breast and two white calves, before a background of farm implements too numerous to mention in the presence of about 60 guests, including two milk cows, six mules and one bob-sled. Rev. Jackson tied the nuptial knot with 200 feet of hay rope and the bridal couple left on one good John Deere gang plow for an extended trip with terms to suit purchasers. They will be at home to their friends with one good baby buggy and a few kitchen utensils after ten months from date of sale to responsible parties and some fifty chickens."

The Book of Smiles is a clever booklet which through its vein of good humor focuses the attention on the merits of the Standard Dryers made by the Standard Dry Kiln Co., of Indianapolis. If you are not receiving these issues of the Book of Smiles regularly you are missing some of the spice of life. Have the Standard Dry Kiln Co., Indianapolis, put you on their mailing list.





*Tell us all about your transportation — **W H A T** you have to haul, and how far, and over what grades and what kind of track, etc. You will be interested in our recommendations — **t h e y** will not obligate you in the slightest.*

## 2,000 Feet Straight Uphill!

"Before buying our 'American' Gasoline Locomotive," writes the owner of this installation, "we doubted whether we could get enough tonnage over our grades to supply our plant."

For two thousand feet, as his tracks approach the plant, they go up a grade 5 to 7½%. 2,000 feet is almost a half mile, and the little sketch shows what a 7% "hill" looks like. It is "some" climb, but "American" makes it—regularly and profitably. As the owner writes:

"Our installation is working perfectly. With one 'American' Gasoline Locomotive we are delivering more material than we used to get in with two, 2½-yard automobile dump trucks. The Locomotive is delivering this service with no apparent strain."

That's the kind of performance we build into every "American" Gasoline Locomotive we sell. The long experience and the good faith of The Hadfield-Penfield Steel Company and its policies of doing an honest, thorough job of every task it undertakes, backs the Locomotive line and protects every customer.

## The Hadfield-Penfield Steel Co.

BUCYRUS, OHIO

Gasoline Locomotive Sales Office,

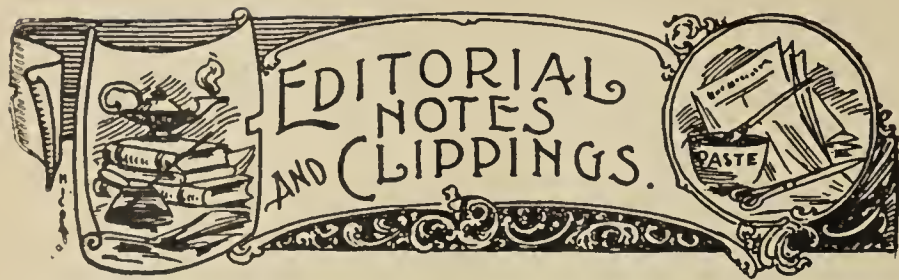


404 Hippodrome Bldg., Cleveland, Ohio

# AMERICAN Gasoline Locomotive

Mention THE CLAY-WORKER.





The Washington Coal Clay Company of Yakima, Wash., has been incorporated with \$250,000 capital stock.

The Webster Brick Company of Cincinnati, Ohio, has certified to a decrease in its capital stock from \$200,000 to \$10,000.

The Big Savage Fire Brick Company, Frostburg, Md., is planning to rebuild its power plant, recently destroyed by fire with loss estimated at about \$25,000.

The Farber Fire Brick Company, of Toledo, Ohio, has been incorporated with \$10,000 capital stock. A. C. Rulhley, B. E. Emery, A. T. Gorley and others are interested.

The Tuttle Brick Company, of Middletown, Conn., has acquired possession of 61 acres of land in Newfield district which probably will be used to secure material for the manufacture of bricks.

The Reliance Brick Company, of Wichita, Kansas, recently booked an order for 70,000 common and 75,000 face brick and the necessary hollow tile for a large school building being erected there.

The Eastwin Brick & Tile Company, Two Rivers, Wis., has been incorporated to mine fire clay and manufacture fire, paving and building brick. Charles C. Stadler, Peter Schroeder and Peter Beth, Jr., are interested.

The A. F. Smith Brick Company's plant at New Brighton, Pa., was almost completely destroyed by fire May 23, causing a loss of \$50,000, on which there was no insurance. P. A. Smith is secretary and treasurer of the company.

The Georgia-Carolina Brick Company, of Augusta, Ga., is feeling pretty good over an order booked the latter part of last May for 1,700,000 brick for shipment to Cuba, and will be delivered to Savannah in four installments for loading on the boats.

The new plant was acquired in order to give the Tank and Silo Company a continuous and sufficient supply of silo tile. In addition to the manufacturer of silo tile the plant will turn out glazed building tile for which there is a big demand. Extensions and improvements are now being made at the property.

Fire of an unknown origin completely destroyed the Colesburg Pottery Plant at Colesburg, Iowa, last month. A man who was passing discovered the fire and gave the alarm, but the fire gained headway so quickly the plant could not be saved. The loss is estimated at \$10,000, partly covered by insurance.

Adam W. Beidler of Chicago died at a private hospital at Atlanta, Ga., after an illness of a week. He formerly was president of the Illinois Terra Cotta Company and the McRoy Clay Works, but retired several years ago. He was a member of the Union League Club and Midlothian Country Club. He is survived by a widow and one daughter, Mrs. C. M. Sciple.

Thomas F. Jones has his new brick plant at Leavenworth, Kansas, ready for operation and expects to have it running to full capacity by the first of July, turning out 30,000 brick per day. The plant is equipped with machinery from the shops of the International Clay Machinery Company, Dayton, Ohio, and is completed in every detail. The brick will be burned with natural gas.

Some time ago Charles F. Albright, of Altoona, Pa., who had purchased the James F. Stott interest in the Eastern Refractories Company, sold his holdings to the company and resigned as president and general manager. Recently Oscar J. Harm purchased the holdings and at a meeting of the directors of the Eastern Refractories Company on Saturday he was elected president of the company. J. Ellis Harvey, of Orviston, was elected vice-president and secretary and Ives L. Harvey, of Bellefonte, was elected treasurer and general manager. As this company owns several of the finest fire brick plants in the state and large deposits of high grade

fire clay and coal they are now in position to make the organization one of the strongest in the state.

Peter Z. Borsh, for many years associated with the Brick-Sales Company and the Meacham Wright Brick Company of Chicago, died at his home in that city recently.

J. J. Sabian has leased the brickmaking plant of W. O. Cook, of Fort Smith, Ark., and made necessary improvements and repairs in same. The plant has not been operated for several years.

George R. Tyler is building a brickmaking plant at Tyler, Texas, with 10,000 capacity per day to start with. There is no brick plant in the town so there will be a local market for all brick made.

On application of its president, Henry J. Glick, the Queen City Brick & Tile Company, of Cumberland, Md., has obtained permission to amend its charter increasing the capital stock from \$100,000 to \$200,000.

The plant of the Streator (Ill.) Clay Manufacturing Company, which has been closed for some time on account of a general strike on the part of the employees, opened June 1, the employees agreeing to accept a 10 per cent. wage reduction.

The Ochs Brick and Tile Company's plant at Springfield, Minn., started operations the latter part of May after having been closed for some time. They report business is increasing in an encouraging manner and expect to continue operations to capacity throughout the summer.

The Pacific Clay Products Company, American Bank Building, Los Angeles, Cal., manufacturer of fire brick and other refractory products has plans under way for new works at Los Nietos, near Los Angeles, to replace the buildings recently destroyed by fire. E. M. Durant is president of the company.

A large deposit of shale has been discovered at Ponca City, Okla., and the Chamber of Commerce is taking steps to have a brick plant built there for the purpose of developing the shale. D. J. Donahoe, W. K. Moore and a number of other business men have been appointed on a committee to investigate the project.

The Phoenix Clay Corporation, Bridgeport, Tex., will build a new brick manufacturing plant. It is reported to have acquired the plant of the Bridgeport Brick & Tile Company, and will operate the property as its No. 2 works. The combined daily output at the two plants will approximate 140,000 bricks. C. W. Martin is president.

Earl Francis was severely injured while blasting at the plant of the Columbus Clay, Brick & Tile Company at Taylor Station, Ohio. He had placed a heavy charge and then put in more explosive, forgetting about the first charge, and ignited the fuses. The first charge exploded and when he poured water in the hole to put out the fire the second blast occurred. He was painfully burned, cut and bruised about the head, face and hands.

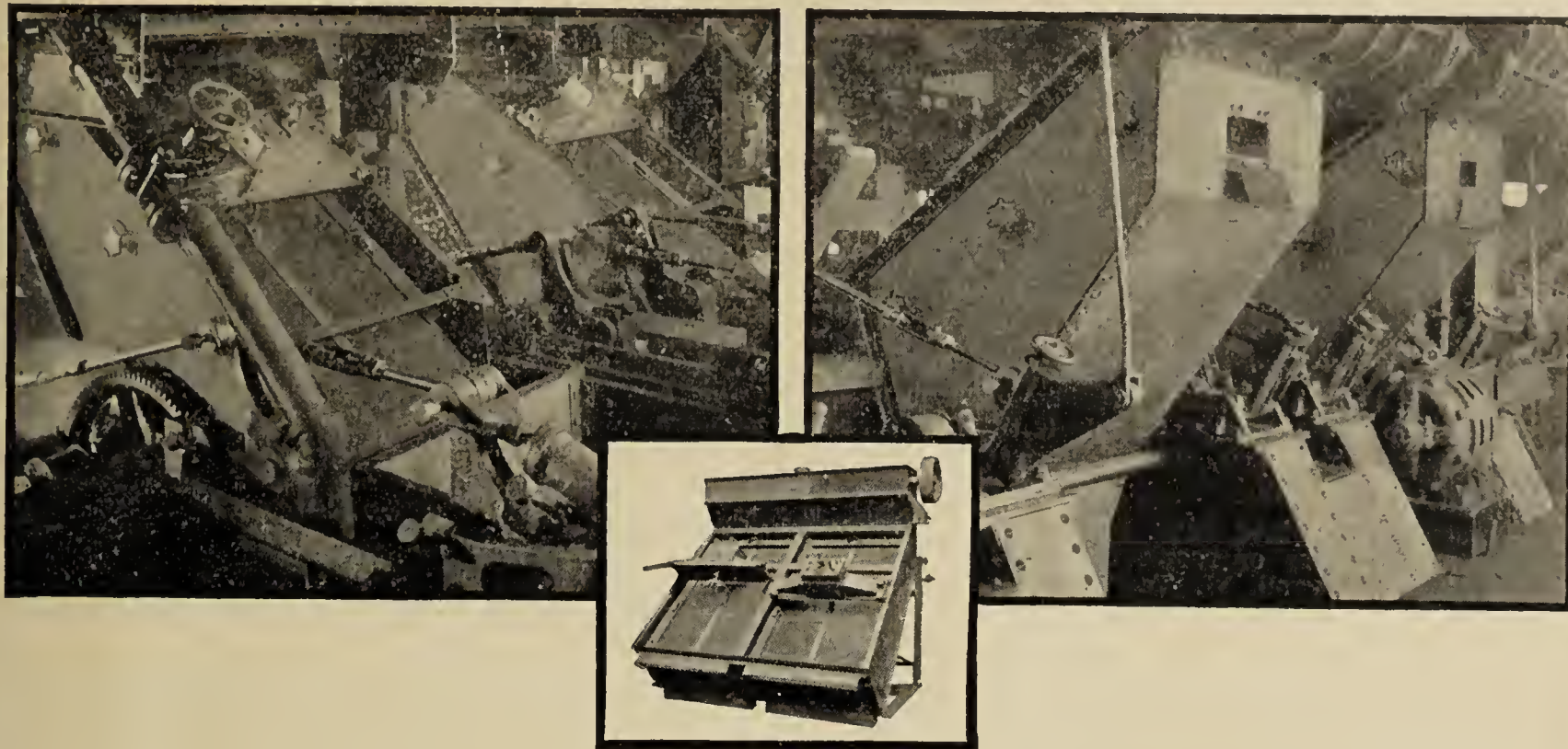
A state charter has been granted to the General Refractories Company, of Pennsylvania, of which John R. Sproul, of Philadelphia, son of the Governor, is the treasurer. This is the name of a Delaware corporation which has large plants in Pennsylvania and in which the Governor is interested. Ultimately it will take over considerable properties. The other incorporators are Burrows Sloan, Ardmore, and James H. France, all of Philadelphia.

The Southern Sewer Pipe Works, at North Birmingham, of which W. S. Dickey, of Kansas City, is owner, after several months' development and improvement now is one of the largest plants of the kind in the country. With tile made in the plant, big additions have been made to the works and a two-story office building erected that is not only a splendid structure, but one that gives ample accommodations for the company's needs. The office building is of glazed tile and is one of the finest looking structures in the district.

Officials of the Kalamazoo (Mich.) Tank and Silo Company have announced the formation of a \$100,000 subsidiary company to be known as the Kalamazoo Clay Company. The new concern, whose officers and directors are Manvel H. Coombs, J. S. Rockwell, J. E. Anderson and P. B. Coombs, has purchased an extensive tile making plant at Carbon, Ind. In addition to kilns and other buildings the property consists of 33 acres of clay land and a long time lease on 97 additional acres. There are 100,000 tons of coal on the property



# HUM-MER *Electric* SCREEN



## Bethlehem Steel Co.'s Report

"Before passing our coal through the wet washery, we have been screening it by the HUM-MER Process in order to eliminate a portion of the fines.

"Our installation consists of a pair of screens 3 ft. in width and 5 ft. long, a total of 30 sq. ft.

"We had estimated that these screens would have a capacity of about 25 tons an hour, but in many cases they have handled as much per hour as 110 tons of coal having as high as 10% moisture. This performance has never been equaled by any other screening process with which we are familiar.

"So far as we are able to ascertain, the HUM-MER Process involves a lower first cost and a smaller operating expense than any other screening process.

"The most distinctive feature of the HUM-MER Screens is their great capacity. It is this combination of great capacity with low cost which has made them practical for our work.

"The HUM-MER Screens are very convenient, the parts being readily accessible for quick repairs and cleaning.

"Both of these operations are easily accomplished without shutting down the entire plant.

"We have found the manufacturers very satisfactory people to deal with, and we appreciate their co-operation in helping us make our use of the HUM-MER Screens a success."

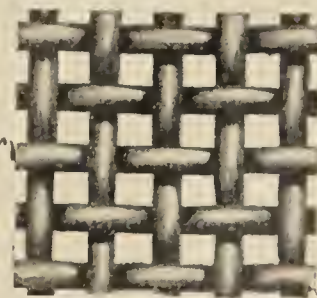
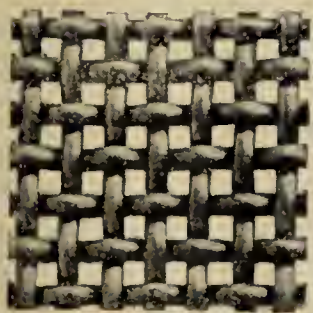
(Signed) FRANK A. ROBBINS, JR.,  
General Manager

BETHLEHEM STEEL COMPANY

Send for  
HUM-MER Electric Screen Catalogue No. 42 W

THE W. S. TYLER COMPANY  
CLEVELAND, OHIO

Manufacturers of Woven Wire Screens and Screening Equipment





## EDITORIAL NOTES AND CLIPPINGS—Continued.

(Continued from page 702.)

and fully one million tons of fire clay, sufficient to serve the needs of the local concern for half a century.

Work has starting on the rebuilding of the Gloninger Brick Company's plant at Vanport, Pa., which was destroyed by fire some time since.

John Dell, president of the Missouri Fire Brick Company, St. Louis, Mo., has been declared of unsound mind, and a guardian has been appointed for him. Mr. Dell is quite a wealthy man, having property in excess of \$300,000, and has been incompetent for some time to manage his business affairs.

The McArthur brick plant at McArthur, Ohio, will close down the middle of May due to an over supply of brick, high freight rates and bricklayers' labor trouble. This plant has been in operation over 14 years and this is the first time to close down except for repairs. Their plant at Puritan shut down the first of the month.

The Proctor & Schwartz, Inc., have recently installed modern drying machines or rooms in the Homer-Laughlin China Company of Newell, W. Va., and the Mayer China Company of Beaver Falls, Pa. The Proctor & Schwartz people have also renovated the drying department of the Onondaga Pottery Company of Syracuse, New York, making it modern throughout.

The Moscow Fire Brick & Clay Products Company, of Moscow, Idaho, recently booked an order for 100,000 pressed brick for the Colfax Methodist Church. The firm had been making fire brick exclusively until this spring when in anticipation of a demand for building brick, they turned their attention to producing a high grade of pressed brick for which they have a good demand.

The outlook is better than it has been for several years, according to officials of the Robinson Clay Products Company, Akron, Ohio. Reports from all over the country, officials said, indicate that clay products, especially paving brick, will be in greater demand than for the past few years, owing to resumption by many communities of street improving work.

A receiver has been appointed for the Standard Brick Company and the Standard Shale Brick Corporation of Crawfordsville, Ind. The former is the old organization which was absorbed by the corporation which originally contemplated erecting one of the largest brick making plants in the United States, but the general business depression following the war made it impossible to carry the project to a successful termination.

Work is plentiful at the local plant of the American Sewer Pipe Company, Barberton, there being more orders on file than ever before in the history of the company, officials claim. The reason for this apparently contradictory state of affairs lies in the fact that cities, towns and municipalities are all busying themselves with municipal work since prices have dropped greatly and since many thousands of citizens are kept busy who would otherwise be out of work.

The annual three-day outing of the officers, department heads and office employes of the Walsh Fire Clay Products Company of St. Louis and Vandalia, Mo., occurred May 28, 29 and 30. The excursionists left in three special cars over the Chicago and Alton Railroad for Vandalia, where the company has clay pits and kilns. Employes at Vandalia joined the visitors in athletic games and contests. Officers of the company who accompanied the party were: Julius S. Walsh, president; Robert A. B. Walsh, vice-president and general manager; N. S. Chouteau Walsh, treasurer; T. M. Pierce, secretary.

The Yankee Hill Brick Manufacturing Company's plant at Burnham, Nebraska, was almost completely destroyed by fire May 18, causing a loss of \$70,000, on which there is \$35,000 insurance. The fire started in the fan room presumably from an electric wire. The plant will be rebuilt and work on same will be started at once with the expectation of having same ready for operation by the first of September. The company now has on hand orders for something like 3,000,000 brick, with a stock on hand of from 3,000,000 to 4,000,000.

W. H. Ferguson is president of the company. As many of the employes as possible will be used in the reconstruction work.

The Carey Porcelain Company of Carey, Ohio, have filed papers with the Secretary of State which increases its authorized capital from \$60,000.00 to \$80,000.00. This company manufactures a high-grade line of porcelain specialties and insulators.

The building interests in San Francisco have set a splendid example by developing an agreement between representatives of the workmen and the contractors to set up a permanent board of arbitration and bind themselves to submit to this board of arbitration all questions involving wages, hours and working conditions. Every city needs something of this kind to help eliminate strikes and lockouts.

Announcement has been recently made that the organization of the American Art Clay Company of Indianapolis, Indiana, has just been completed. The company will engage in the manufacture of art clay products and has been incorporated for the sum of \$10,000.00. The incorporators of this concern were: Geo. Cartlidge, Jay Clark, E. M. Pilot, H. H. Philpott and T. O. Phillpott, all of Indianapolis, Ind.

## GOOD ROADS.

No matter what differences of opinion may develop as to methods of financing or of the details of construction of good roads, the important fact remains that we are making splendid progress in the building of good roads practically all over the entire country. Also we are making progress toward building better roads, that is, roads properly drained, better constructed and that will give better service than anything heretofore.

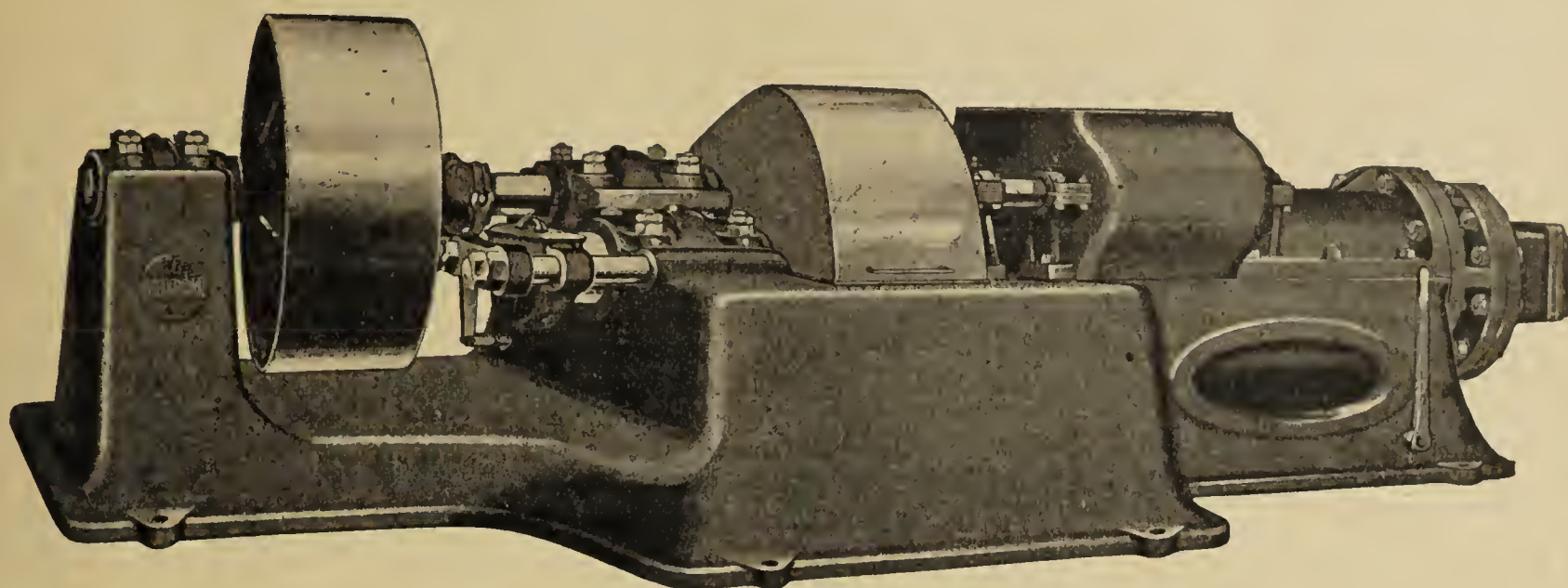
## HIGH FREIGHTS CUT BRICK PAVING.

There seems to be pretty conclusive evidence that high freight rates adding to the delivered cost has seriously curtailed the amount of paving brick being used for street making, as well as road building. There are probably plenty of individual paving brick manufacturers who have faced this fact convincingly to their regret, and in the "Shipper's Advocate" for June there was made a definite showing of how the excessive transportation tax on paving brick is curtailing its use and cutting down the amount of good street work being done. In this case not only are the railroads losing business for themselves, but they are seriously curtailing a big branch of the clayworking industry.

## BRICK BUSINESS SLOW AT FULTON.

Orders that are being received by the Fulton (Mo.) Fire Brick Company make it seem possible that the factory will be started on part time at least, according to C. O. McNamee, general manager of the company, who has just returned from a business trip through the east. The plant has been closed down in almost every department since the first week in May, throwing 300 men out of employment. In certain lines of fire brick products the company has a large stock on hand, which has been stored in moisture proof sheds on the plant grounds and which will be protected for an indefinite period. "Our railroad business is picking up a little bit and also our commercial business," said Mr. McNamee. "The increase in orders is very slow but perceptible. Some lines of our stock are low and if orders continue to come in we shall have to start the factory again on part time." Mr. McNamee on his eastern trip visited New York, Pittsburg and Ashland, Ohio, where he conferred with men who are interested in operating the Fulton factory. "The men I saw told me that they could see signs of improving business," added Mr. McNamee, "but none of them expect a quick return of good business. The fact is that most of them think it will be next spring before the arrival of stable conditions."





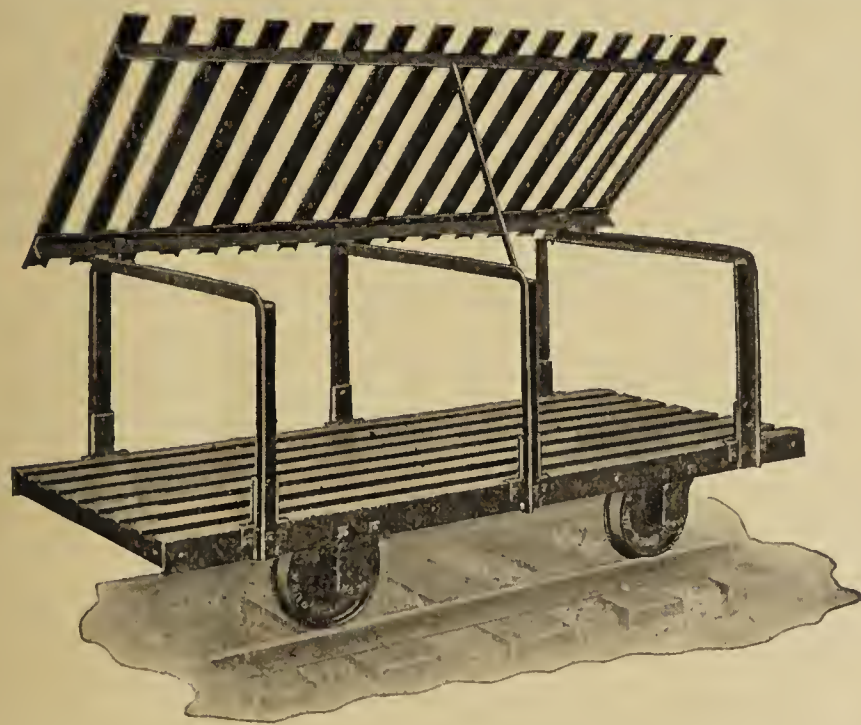
For Hollowware or Brick

Type 445—25M to 40M Brick per day

Type 435—40M to 75M Brick per day

Type 425—75M Brick per day Upward

**THREE MACHINES OF ADVANCED DESIGN  
TWO CASTINGS—TWO SHAFTS—TWO GEARS**



Type G

**Dryer Cars  
and  
Industrial Cars  
of all types.**

**A Complete Line of  
Machinery and Equipment  
for the Clay Plant.**

**International Clay Machinery Co.**

**Dayton, Ohio**

New York

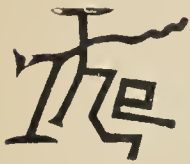
Toronto, Can.

Pittsburg



Written for THE CLAY-WORKER.

#### NOTES FROM DIXIE LAND.



JUNE ASPECT in brick and building circles is very much more promising in the Memphis territory than it was early in the spring. At that time rains and labor dissensions just starting were not very propitious. The days are hot now, out door activities in every line good. The labor situation while not settled seems that it will be soon. In a few of the crafts injunctions have been given against interference, some of the contractors have declared open shop and there is some talk of arbitration of all the difficulties. Leaving out this feature of the equation, May building showed an increase of nearly \$100,000 over May a year ago, and as a matter of fact the largest work is yet to begin.

Shortly the work will be under way on the Municipal Auditorium, Market and City Hall, Fred B. Young & Son, contractors. This covers an entire block and is to be completed by Nov. 15. Light colored brick will be used in the exterior of this structure.

Jno. Wade and Sons are starting a two-story brick addition to their plant to be used for candy and extract department.

R. N. Bond, at Brownsville, Tenn., is having rebuilt with brick the auto structures on Depot St., that he recently lost by fire.

The burned section of the town of Wildersville, Tenn., on the N. C. and St. L. R. R., west of Memphis, is being rebuilt. M. C. Rosser is erecting two brick stores. C. W. Scott and W. R. Johnson will erect another. Dr. C. E. Boley and W. R. Wilson will erect another. The Wildersville Supply Co. is also building.

At Trezevant, Tenn., where some twenty-five stores burned in May, a rapid replacement with brick structures is about to begin. Jeff J. Blanks, R. Y. Denton and Co., Edwards-Atkins Co., and the Farmers and Merchants Bank will be among the first to restore.

O. C. Sloan it is reported will open a brick manufacturing business at Trezevant, Tenn.

J. E. Campbell, of Humboldt, Tenn., prominent brick man, contractor and owner of much business property at points on the L. & N., died at Humboldt, Tenn., a few days since.

The Memphis Brick Co., 504 Goodwyn Institute, feature common brick, facing brick, Ideal hollow Rolok brick wall material and are supplying numerous buildings in the Memphis territory.

A \$100,000 remodeling and brick addition is to be made to the Linden Ave. Christian Church, Memphis. Rev. Walter White is pastor.

M. J. Gallagher, contractor, Memphis, is now making excavations for the new residence of D. H. Hamilton, at the southeast corner of Central and Goodwyn Aves., adjoining the Memphis Country Club. The structure will cost about \$250,000 and face 117 feet on Goodwyn Ave. The residence will be three stories, in the basement will be eight rooms, on the first floor ten rooms, on the second floor nine rooms, the third floor for maids' rooms and nursery. There will be eight baths. Brass plumbing throughout. Hollow tile will form the exterior wall and stonekote will be applied to the tile for exterior finish. The interior partition walls will be of brick, over 100,000 being used in the interior walls. B. Mifflin Hood Brick Co., of Memphis, and Atlanta, will furnish ten cars of brick and eight cars of national fire proof building tile. The roof will be of California mission tile. Lord and Hewlett, of New York, are the architects.

The new \$500,000 state prison to be erected near Montgomery, Ala., Martin J. Lide & Co., contractors, will be 45 feet high, with brick front, other portions of reinforced concrete.

It will be equipped with steam heat, ventilation and modern features.

Mayor F. W. Katterjohn, of Paducah, Ky., the well known brick man, accompanied by his wife and little grandson, have left for New York and will sail in June for Europe. They will visit the principal countries and be gone until September. While the mayor's trip is for pleasure, he will make a study of the European governmental methods and will be a representative of the Paducah Rotary Club at the International Convention of Rotary Clubs to be held at Edinburgh, Scotland.

Mr. Montague, eminently identified with the clay and sewer pipe industries of Chattanooga, died in May in that city. Deceased was one of the pioneer sewer pipe manufacturers in the South. His Chattanooga residence was one of the show places of the South, being built in the Italian Renaissance and Moorish castle types of architecture on a commanding eminence near the Tennessee river.

DIXIE.

#### SOME CENSUS FIGURES.

A PRELIMINARY report of the 1920 census of manufactures has been issued and gives tabulated figures on the number of establishments operating and the total value of the products. The report on the clayworking industries, shown under the head of brick, tile, terra cotta and fire clay products, gives a total of 2,449 establishments in 1919, with a product valued at \$211,093,000, as compared with 3,239 establishments in 1914, with a product valued at \$135,921,000.

In addition to these figures on brick and tile proper there is a separate listing of pottery, which shows 339 establishments turning out a product valued at \$78,884,000 in 1919. In 1914 there were 350 establishments turning out pottery valued at \$36,943,000.

In the clayworking industry, as elsewhere, the figures for the census year 1919 when compared with the census year 1914 show a decline in the number of establishments but an increase in the total value of the products. Part of this is due to the fact that we had higher prices in 1919, but the 1919 prices were not the peak prices of 1920, therefore even making an allowance for higher prices the figurer of the manufacturing industry as a whole as well as the clay working showed a tendency to concentrate the industries into larger units, which reduces the number of industries but increases the total value of manufactured products.

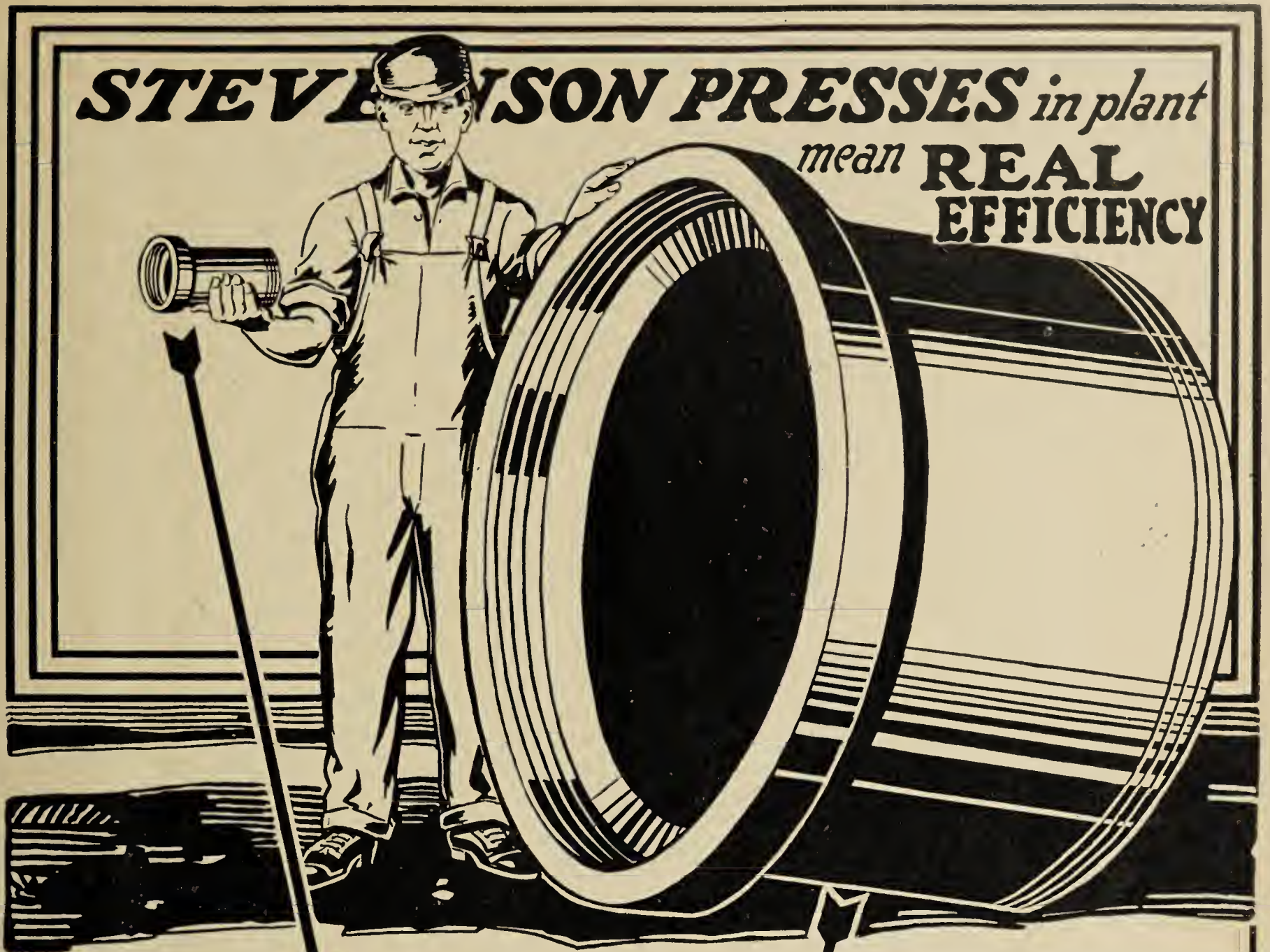
It remains to be seen what another census period will bring forth. In the clayworking industry there are some who predict that there will be a decentralization, especially if high freight rates prevail, and a sharp increase in the number of the industries as well as in the total value of clay products. Conditions throughout the country are such now as to make for the growth of community brick plants to supply the rapidly increasing local requirements for the building of homes and other construction work.

The total figures for all manufacturing industries show 288,376 establishments in 1919, turning out a product valued at \$62,588,905,000. In 1914 there were 275,771 establishments, turning out products valued at \$24,246,435.

#### FIRE-SAFE PROPAGANDA.

Not only are the insurance authorities and trade papers publishing from time to time facts and figures on fire losses and how to prevent them, but even the popular magazines and the public schools are taking an active interest in this subject. In short, there is plenty being printed and said about it, but is that enough to do? Sometimes it seems as if the public takes it all too lightly and that it would be a good thing for us to say less and strive to make what we say and do a little more impressive.





Range of Socket  
Pipe made on

3" **Green Sizes** To 42"

**STEVENSON  
PRESSES**

## OUR NEW HAND OPERATED PIPE TURNER

IS NOW READY

"YOU NEED IT"

### MANUFACTURING SPECIALISTS—

DRY PANS  
WET PANS  
ROLL CRUSHERS  
ELEVATORS

SEWER PIPE PRESSES  
TILE PRESSES  
PIPE TURNERS  
PRESS FEEDERS

Bulletins on request.

## THE STEVENSON COMPANY

GENERAL OFFICES  
AND  
WORKS

Wellsville - - Ohio

Western Sales & Engr. Office  
801-802 MONADNOCK  
BUILDING

Chicago - - - Illinois



Written for THE CLAY-WORKER.

## PACIFIC COAST NEWS.



ATTENTION OF THE industry has for the last ten days been directed to the cessation of building operations in San Francisco and Oakland. This was brought about by refusal of the unions to accept findings of an arbitration board calling for wage reductions covering 17 trades approximating seven and a half per cent. When the Building Trades Council refused to recognize the award as binding the associated employers in the Builders' Exchange locked out the union men and building activities ceased.

Another factor in the situation is an investigation by the district attorney's office of San Francisco into charges that the material men of the city are refusing to deliver building materials to contractors who are in a position to continue operation if they can get materials. These contractors are not of course adhering to the lockout policy of the other builders.

Any such refusal of material men to deliver materials would be in violation of the anti-trust laws, it is claimed at the district attorney's office, and that official has already stated that he would lay the matter before the grand jury next week.

Taking the whole matter by the horns the Builders' Exchange has issued an ultimatum declaring for the open shop or "American plan," henceforth, to take effect June 13 and calling on all men who want to work to report on that day under the open shop plan. This move is being watched by the entire brick industry and other business interests on the Pacific coast with the greatest interest as its effect will be far reaching.

In the meantime building operations in both San Francisco and Oakland are at a standstill and a considerable quantity of brick and other material which was to have been used is unmarketable. The effect of the cessation of activities in the two large cities is being acutely felt by the brick men throughout the northern part of the state.

Operations at the Homer Knowles Pottery Company plant in Santa Clara are proceeding as per schedule and a shipment of English clays, said to be the largest consignment of clays ever sent to one pottery is expected to arrive by special steamer about August 1. Special machinery from the east is also due soon and on Mr. Homer Knowles' recent trip east he arranged for several of the most skilled workmen in the pottery trade to come to Santa Clara to be in readiness to begin making molds for the factory when plaster arrives in July.

Extensive plans for interesting Riverside county business in the Alberhill clay deposits and large contemplated opera-

tions there with the formation of a gigantic company planned are results of a recent get-together of Riverside interests to discuss the bearing of Alberhill clay deposits on the community.

Investigations directed toward securing better insulators under severer tests than have hitherto been considered necessary have been started by LeRoy C. Williams, insulation expert, at the Alberhill Research Laboratories to further the development of high tension insulators needed by the growing hydro-electric power systems. Mr. Williams has also been commissioned by the Alberhill interests to make intensive tests of all California clays. Power systems and manufacturers are co-operating.

Completion of the first unit of the California Pottery Company plant at Merced, was expected early in June. Four kilns with twenty-five men comprise this unit. The next unit of the same size will be finished about the middle of July if schedules are followed. In all four units with a total of sixteen kilns are to be erected and operated. Hollow building tile will be manufactured in the first unit and it is expected that the Merced market will absorb the first two months' output as builders have already contracted for large quantities.

Altogether an eight months' supply has been ordered, according to information given out at the company's office. Iron stone pipe and irrigation pipe will be produced in the second unit, face brick and roofing tile in the third and fire brick and acid ware in the fourth and last unit.

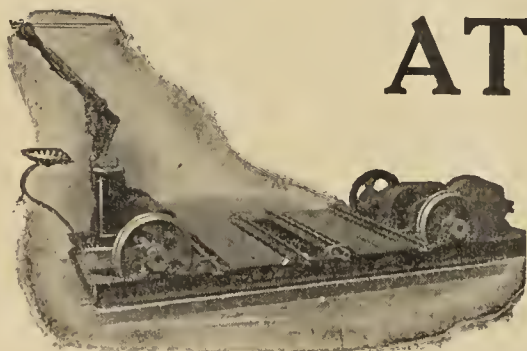
The company is very active in many other ways also. Plans are afoot to resume the trade with the Hawaiian Islands which was broken at the outbreak of the war and H. J. Crowe, former Fresno manager of the company, has been sent to Honolulu. The general public, as well as delegations from San Francisco and Oakland, are expected to attend a barbecue in connection with opening exercises in June when operations commence in the first unit.

The city of Los Angeles is evincing an ever increasing interest in the development of the ceramic industry in Southern California and plans are being formulated for shipment of clay products from Southern California to Japan with an initial shipment of 2,500 tons. Representatives have been dispatched to the Orient by the chamber of commerce who will among other things endeavor to drum up a trade in ceramic products for export to Japan and China.

Thomas Normale, old time ceramic operator, and Theodore A. Bell, of San Francisco, plan establishment of a pottery on a bed of citreous pure white burning clay in eastern San Bernardino county. Ample finances are already provided, say the owners. This clay has been given the trade name of "Norbell." The deposits, which are comprised in twelve claims, will require practically no surface stripping and have clay of sufficient depth to supply the United States with chinaware for the next one hundred years, is the claim.

San Francisco, Cal.

SUNSET.



No. 913  
Double Truck Electric Transfer Car.

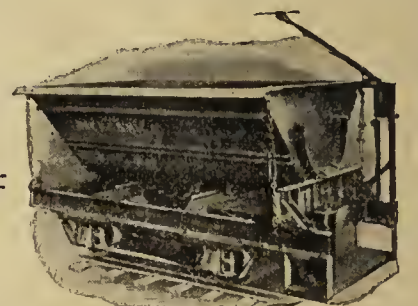
## ATLAS COST-REDUCING EQUIPMENT

Electric Transfer Cars  
Rocker Dump and Gable Bottom Cars  
Storage Battery Locomotives

Electric Trucks and Tractors

Tunnel Kiln Cars

Let us solve your haulage problems.



No. 217-EH  
Large Capacity  
Electric Side Dump Car.

### The Atlas Car and Manufacturing Company

Engineers

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Mention THE CLAY-WORKER.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

## THE MANUFACTURERS EQUIPMENT CO.

DAYTON, OHIO, U.S.A.



Written for THE CLAY-WORKER.

#### NEW YORK SITUATION.



HE OUTLOOK for the consumption of burnt clay products in the Greater City is very encouraging.

Most of the work that is contemplated, or under way, is along the lines requiring these products in large quantities. There is being uncovered each week a larger amount of construction work. Much of the work is of the apartment house class. This variety of work requires common brick, hollow tile and face brick in somewhat unusual quantities. The latter brick is much in demand and is the favorite material. The ruling colors are mostly in the lighter shades. There is a slight tendency, however, to lean toward some of the intermediate shades. In fact, selections are made ranging from the lights to a fairly dark variety. The dark variety are generally laid up with a wide joint, that makes the brick stand out and show its true color.

The committee recently appointed by the state to investigate the different phases of the building industry has succeeded in bringing about indictments to several members and companies. These indictments charge conspiracy as violators of anti-trust laws. All pleaded guilty to the charges and were let off with fines ranging from \$500.00 to \$7,500.00. It was shown that all were reputable people and were not in the overbearing and profiteering class. The lightness of the fines was due in some measures to the guilty pleas entered by all. This cut down the expense to the state by not causing trials to be held. It has been shown that some material dealers and operators have been making enormous

profits and this committee has been endeavoring to locate the fault and bring about a season of fair play.

The prices of burnt clay products remain approximately at the former levels. The variation may be a dollar or two in one direction or the other, which makes no material difference. Common brick at wholesale are bringing anywhere from \$14.00 to \$15.00, while the price of brick delivered are anywhere from \$17.00 to \$18.00. This variation is due in a large measure to length of haul and whether a barge can be brought alongside or not. The industrial building in progress along the waterways helps to keep the price variation from getting very wide. The variation in prices of face brick is great, being generally quoted from \$32.00 to \$55.00. There is a fairly good quality of red face brick being quoted at \$32.00, but the maker's name is a mystery. The brick is of good quality, wire cut, and is having a good sale. The \$40.00 to \$50.00 face brick is also having a good call. These run through all shades of light to a fairly dark shade. In fact, all classes of face brick are having a very good inquiry at this moment. Hollow tile prices have not varied to any great extent, remaining steady at 14½ to 18½c a square foot for the smaller sizes and a few cents more for the larger sizes. A new price list is out on this product, but the variations cannot be noted at this time.

A new brick corporation has been organized to operate a brick manufacturing plant at Greenport, New York, to be known as the Greenport Brick Corporation, capitalized at \$300,000.00. J. Briskman, 220 West 32nd street, New York City, is at the head of the new company.

The Robinson Clay Products Company, manufacturers of sewer pipe, are to erect two warehouse buildings, one at Albany, N. Y., and one at Syracuse, N. Y. The New York office of the company is located at 949 Broadway.

BURTON.



## WHICH METHOD SHALL YOU USE?

### ARE YOU OPEN TO CONVICTION?

Do you believe Progress has been made in handling various materials?  
How do you handle brick?

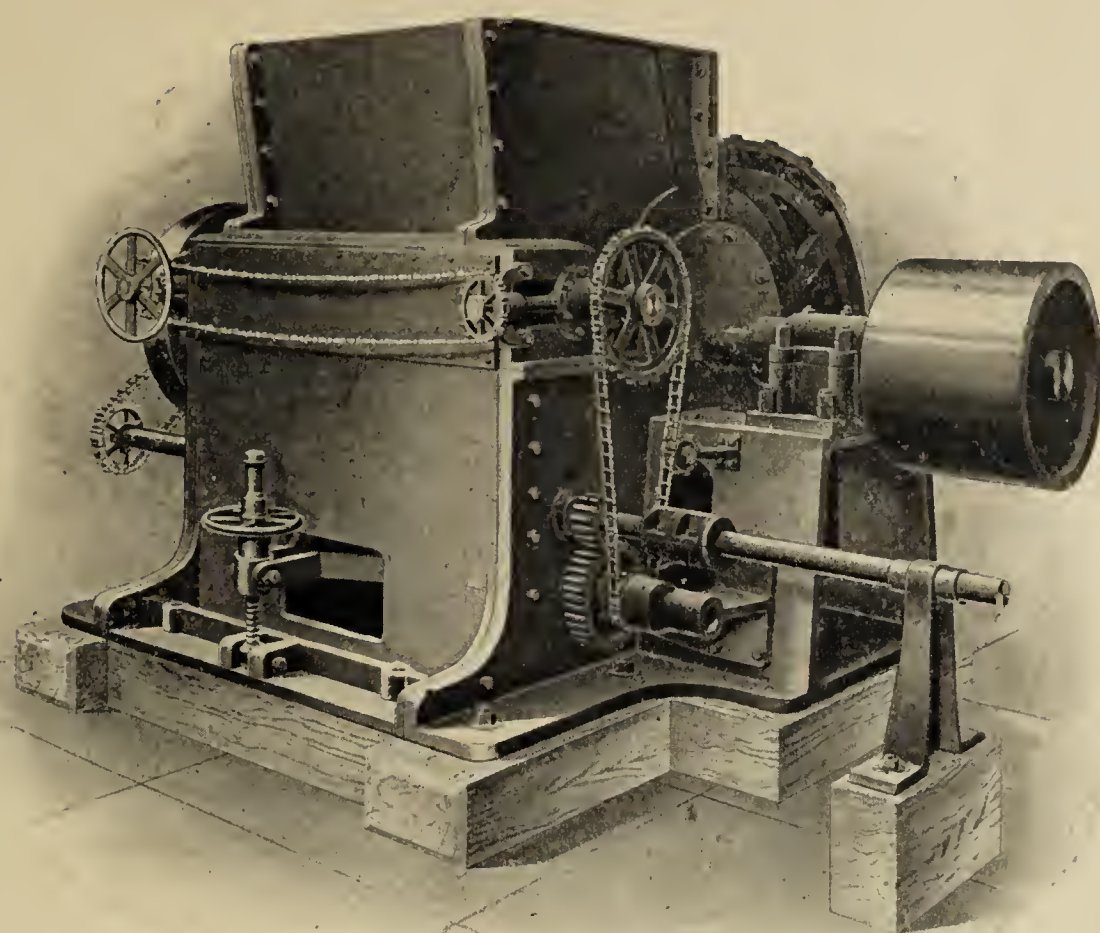
What do you think of this? One two-ton truck delivering 10,000 brick over country roads, a round trip distance of 9½ miles per day?

The "FONTAINE DEMOUNTABLE TRUCK BODIES" handle brick or similar material without danger of breaking or chipping and yet cut cost of labor in half and keep the truck always on the move. Why not enquire?

**The American Truck Body Co., Inc., Martinsville, Va.**

Mention THE CLAY-WORKER.





## Eliminates Traces of Lime From Your Burned Ware

### Reduces Wet Clay and Shale Containing Lime Pebbles Direct From Bank to 8 Mesh and Finer

At Zumbrota, Minnesota, the Colburn Brick and Tile Company has installed two No. 7 Williams Deck Sweeper Clay Grinders and steam heated screens with a combined capacity of 400 tons per day. These machines are reducing wet clay and shale containing lime pebbles to 8 mesh and finer, eliminating all traces of lime from the burned ware.

This is just one of many plants where Williams equipment is solving a complicated problem at low cost per ton.

For the solution of problems such as lime pebbles, granular clay and similar troubles write to our clay handling department.

# **WILLIAMS**

## PATENTED CLAY GRINDERS AND STEAM HEATED SCREENS

**WILLIAMS PATENT CRUSHER AND PULVERIZER COMPANY**  
HINGED HAMMER ESTABLISHED 1871

PLANT AND GENERAL OFFICES  
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## Even Low Priced Labor Can't Compete With The One Man Excavator

Designed for the plant with a daily capacity of from 25,000 to 100,000 Brick Daily.



This machine will handle **MORE MATERIAL THAN TEN MEN**, at a daily cost **NOT EXCEEDING NINE DOLLARS** for labor, fuel, and oil.

One man operation.

Low first cost and upkeep.

Gasoline or electrically operated.

Digs in any kind of weather.

Will easily pay for itself in a short time.

Especially designed for use in pits where the output is not large enough to warrant heavy, high priced and expensive steam or cableway equipment.

**NO MATTER HOW SMALL YOUR REQUIREMENTS**, let us show you that you **NEED**, and **SHOULD INSTALL**, this economical, cost cutting and profit doubling machinery.

Write for details today.

### BAY CITY DREDGE WORKS

2611 Center Ave.

BAY CITY, MICH.

Written for THE CLAY-WORKER.

OHIO BRICK AND BUILDING NEWS.

**T**HE DULLEST market for ten years is being experienced by the brick industries of Northeastern Ohio, according to manufacturers. Sewer pipe works are faring better than brick plants. Wage disputes have been settled.

No improvement is in sight in the clay industry it is said until other basic industries become more active. Wage levels are back to the 1917 basis.

A slight improvement in orders has been noted by fire brick and sewer pipe plants, with the opening of June, it was reported Monday.

T. C. Eayres, of Philadelphia, has resumed charge of the plant of the Massillon (Ohio) Stone and Fire Brick Co.

Construction work on the Midvale plant unit No. 2 of the Canton Brick and Fireproofing Co., capitalized recently at \$1,500,000, will be commenced soon, officials of the company have announced. Rails for an extension of the B. & O. switch at Midvale are on the ground and 30,000 feet of lumber is being cut for building purposes by the company employees.

Offices of the company have been opened in the Wescott Block, North Broadway.

The Canton plant of the company is turning out 40,000 brick daily.

The 140 prisoners from the Ohio State penitentiary, employed at the state brick plant near Junction City, have stopped making paving brick and for the next two or three months will make nothing but building brick. This change is necessary because of the extensive program of the administration board for improvements and betterments at all state institutions.

Approximately 500,000 building brick will be needed for the work that the board plans to erect during the next two years. There are more than 1,000,000 paving block ready for delivery at the plant and while many orders are already being received through the state highway department, there are enough to last several months.

The general assembly granted an appropriation of \$58,000 with which to purchase additional equipment for the plant and when this is fully installed the capacity will be increased to 75,000 daily. Now it is averaging about 25,000 brick daily.

W. A. Dielhenn, of Massillon, was elected president and general manager of the Massillon (Ohio) Refractories Company, with plant near East Greenville, Ohio, at the annual stockholders meeting. E. B. Prentice was named vice-president; secretary and assistant treasurer, H. F. Dielhenn. Plant operations will be in charge of Mr. Prentice. In addition to the officers the board of directors includes C. P. McClain, H. L. McLain, F. L. Griffiths and F. F. Taggart.

Announcement has been made from the office of the General Fireproofing Company of the promotion of Ben F. Potts, assistant manager of sales to the position of branch officer with headquarters in Philadelphia. Mr. Potts has been with the General Fireproofing Company for 19 years, having started as store keeper and successfully worked his way through several departments.

Corporation papers are now in Columbus for reorganization of the Tritt China Company, Niles, Ohio, under the name of the Crescent China Company. Reorganization was effected and new officers and directors elected with the transfer recently of W. H. Tritt, of Niles, to Sebring interests of Sebring. Newly elected officers of the company are: President and treasurer, A. O. C. Ahrendts; vice-president, D. B. Howell; secretary, C. L. Sebring; assistant secretary, C. S. Wardeska. Directors, A. O. C. Ahrents, D. B. Howell, F. A. Sebring, F. H. Sebring and C. L. Sebring.

The building industry's revival has been reflected at two brick plants at New Philadelphia, Pa. At one plant the output in thirty days increased a half million bricks. Work will be started in a few days on construction of the Midvale plant of the Canton Brick and Fireproofing Company. The Canton plant of the company has a daily output of 40,000 bricks a day.

OHIO.





## *What Will You Give for \$20,000 Additional Brick Business?*

A GROUP of sane, practical and progressive business men are in possession of a merchandising idea which, at the most conservative estimate, will produce \$40,000,000 for the Brick Manufacturers of the United States during the next two years.

As there are 2,000 such manufacturers, this idea would be worth an average of \$10,000 to you personally, each year.

How much would you be willing to give for this idea, payment to be made in easy quarterly installments covering a period of two years? Please state specific amount. Also give list of the different clay products you manufacture and normal plant capacity of each.

This is no stock selling scheme, but a straight, legitimate business proposition by means of which you can greatly increase the earnings of your plant.

All communications will be treated in the strictest confidence and given every consideration, and no advantage taken of anyone.

*Address Box 1322*

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Indianapolis, Ind.



## UNLOADING FOR 3 CENTS PER TON



Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.

**The Columbus Conveyor Co., Columbus, O.**

## Webster's Continuous Down Draft and Continuous Muffle Kilns

Patented in United States, Canada and Great Britain. Marvels of ingenuity and simplicity. Pronounced by experts to be the most perfect and cheapest kilns to construct and the most economical to operate, ever invented or put upon the world's markets.

Equally as economical for burning any class of goods from common bricks to the highest grade ceramics, glazed ware, etc.

**HENRY WEBSTER AND SONS,**

**628 Lexington Avenue, Newport, Ky.**

Kiln specialists and consulting engineers. Forty years of practical experience in clay products industries and continuous kilns.

Members N. B. M. A. U. S. A. Institute of Clay Workers Great Britain, Blue prints of kiln can be seen at Clay-Worker office, Indianapolis, Ind.

Type "B"  $\frac{3}{4}$  cu. yd. ERIE Shovel, owned by McCrady Bros., Braddock, Pa.



**"Very stiff clay, 750 cu. yds. a day"**

"We have loaded, on the average, 750 cu. yds. of very stiff clay per ten-hour day.

We prefer the ERIE to any other shovel we have ever used. In our opinion the ERIE has everything else of her size beat a mile."

*McCrady Bros., Braddock, Pa.*

The ERIE Shovel is both speedy and reliable.

It is built far stronger than the usual standard of steam-shovel construction.

We would like to send you a bulletin showing just what the ERIE shovel can do. Write for a copy of Bulletin "W."

**BALL ENGINE CO., Erie, Pa.**

Builders of ERIE Steam Shovels and Locomotive Cranes, ERIE Railway Ditchers, BALL Engines.



**ERIE Revolving Shovels**

**BALL Engine Co. Erie, Pa.**

Written for THE CLAY-WORKER.

CLAY AND BUILDING NEWS FROM MILWAUKEE AND WISCONSIN.



COMPARING THE SITUATION in the clay working industry of Wisconsin with other lines of business, it can safely be stated that conditions have shown favorable progress in the period of readjustment. The large outlet of clay products manufactured in this state is in the building and construction line and while building has not assumed the boom which is being anticipated, the volume of construction work is gaining steadily. Up to June 1 the records of the building inspector at Milwaukee show that for the year to date 11,449 permits have been issued for a total of \$8,999,354, as compared with 9,754 permits for \$8,182,847 for the first five months in 1920, a gain in 1921 of more than \$816,000. That building is continuing to increase as the year progresses is indicated by the report for May. This year there were issued 3,262 permits for construction to cost \$2,784,540, while during the same month a year ago the number of permits was 2,475 and the value \$1,195,485.

Analysis of the records reveals that up to June 1 this year permits for more homes had been issued than were taken out in the whole year 1920. The record to June 1 this year is 807, as compared with 803 for twelve months in 1920. Last year up to June 1, the total housing accommodations for which permits had been taken numbered 293, or only 36 per cent of the record to the same date this year.

Not only does the Milwaukee building record show favorable progress, but information from other cities throughout the state indicates a similar healthy condition of the industry. Numerous schools and other public buildings are now under construction or will be started this year. Street paving is also going ahead, with a liberal number of contracts being let for vitrified block jobs. Sewerage systems and farm drainage have also created quite a demand for pipe and drain tile. Plumbing and drainage ordinances have been adopted at Viroqua and Waterloo, with others pending at Kekoosa, Wisconsin Rapids, Marshfield, Merrill, Cadott, Portage, West Bend, Hartford, Chilton, Markesan and other places.

Although there have been some instances of labor difficulties in building lines throughout Wisconsin this spring, no serious cases are now pending as amiable adjustments have been generally made. This has had the effect of construction work going ahead without trouble.

Henry and Samuel Guenther, prominent business men of Port Washington and engaged in the brick and tile manufacture under the style of Guenther Bros. Brick & Tile Co., gained considerable publicity recently after braving the high waves of Lake Michigan in their yacht and rescuing John Appleton, a local business man who had been clinging to his overturned sail boat for sixty-five minutes. While hundreds of onlookers lined the shore and scores of fishermen attempted to effect a rescue of Anderson, the Guenthers brought their yacht to the scene and rescued the men.

Property of the Kewanee Clay Products Co., at Kewanee, is being disposed of under the sheriff's hammer. The company was organized several years ago with local capital interested. After several changes in the management, previously noted, it was finally decided to abandon the project. The yards consist of three acres of land, a dry room and a down draft kiln, representing an investment of about \$10,000. It is hoped that local capital will purchase the property and again place it in operation. A good local demand exists for clay products, particularly for drainage tile in agricultural districts in that vicinity.

The Eastman Brick & Tile Co. has been incorporated at Two Rivers, Wis., with a capital stock of \$15,000. The incorporators are Charles C. Stadler, Peter Schroeder and Peter Beth, Jr.

A BADGER.



JULY, 1921

# THE CLAY-WORKER



BRICK AND ART TILE IN ARCHITECTURE: Side Pavilion Garden Pier.  
Atlantic City, N. J. See page 21.

Published Monthly by  
**T.A. RANDALL & CO.**  
INDIANAPOLIS, IND.  
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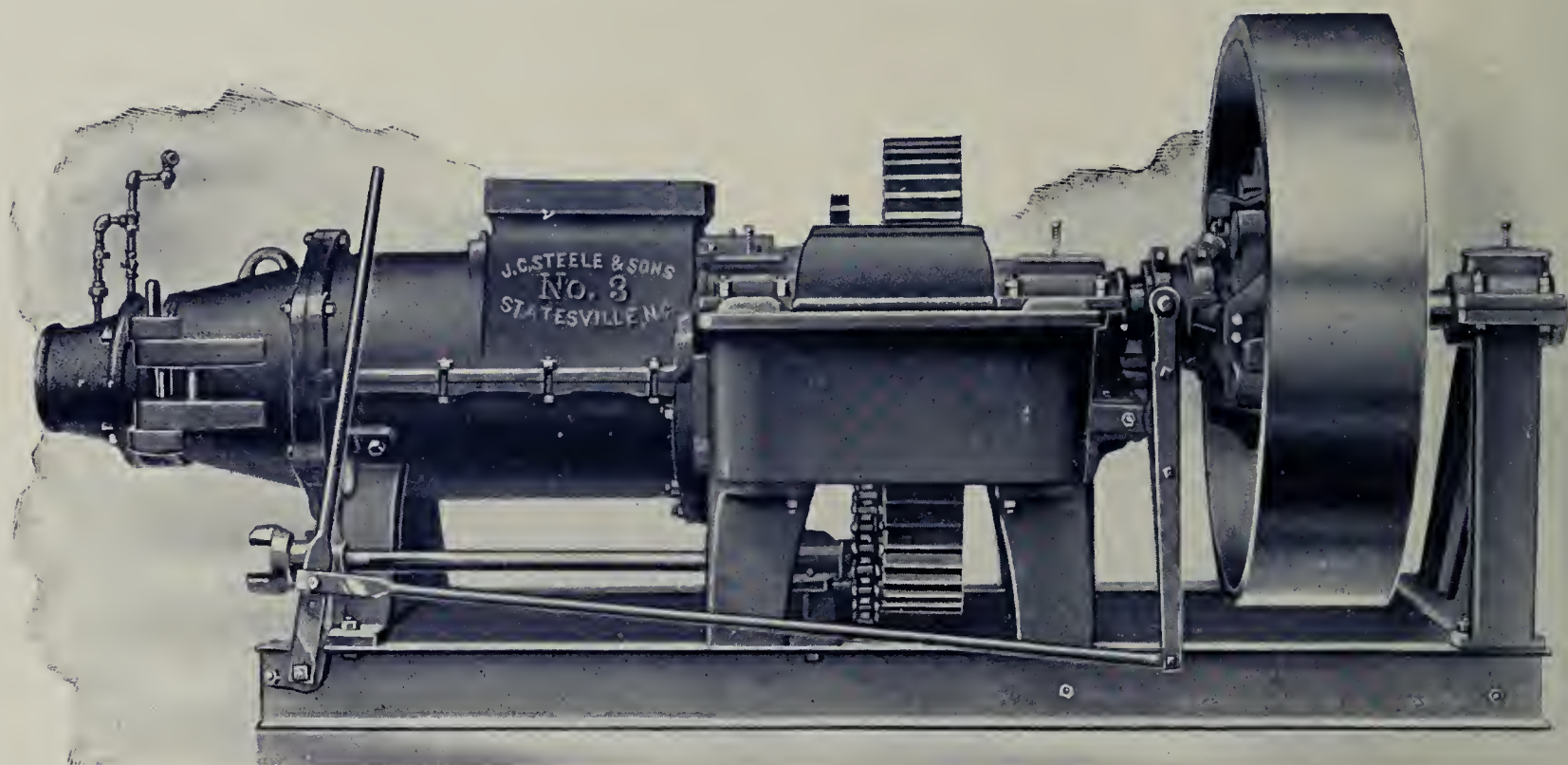
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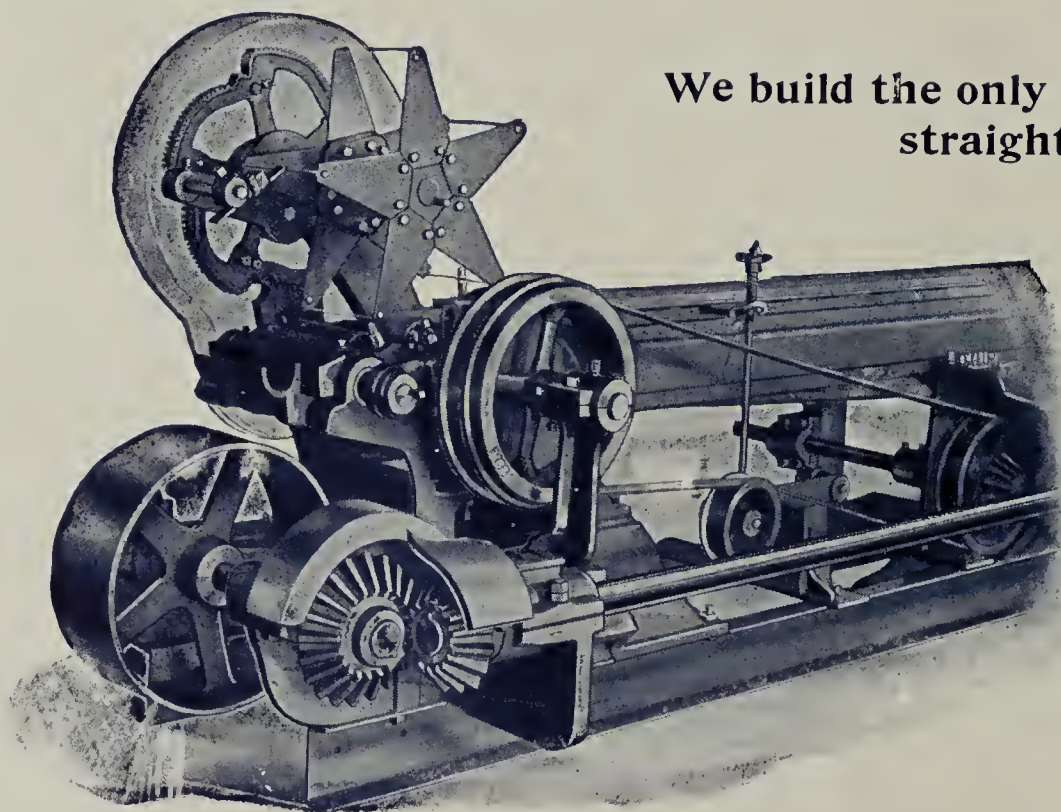


# Steele Single Geared Machines Few and Heavy Parts



**No. 3. 20,000 to 30,000 Brick per Day.**

Our machines for small capacities receive just the same attention as our larger machines. We know the requirements of the small brickmaker by long experience, and have given special attention to simplifying and improving these machines. We think it better policy to carefully consider the necessities of our customers, rather than to load them up with machinery not suited to their conditions. With our machines you are at no disadvantage with the large plants.



**We build the only End Cutter that will cut  
straight and on edge.**

This Cutter will cut either flat or edge. Most users prefer cutting on edge as it makes a smoother, cleaner cut, leaving the top edge perfect and suitable for face brick; simplifies sanding, it only being necessary to sand bottom edge to prevent sticking on Cutter, in hack and kiln; eliminates edger with the consequent disfiguring of brick, loss of space and wear of delivery belt.

*Ask for catalog of full line.*

**J. C. STEELE & SONS**

**Statesville, N. C., U.S.A.**

**CLAYWORKING MACHINERY**

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Northern Agents: The Manufacturers Equipment Co., Dayton, Ohio.





THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 76

INDIANAPOLIS, JULY, 1921.

No. 1

## BRICK AND ART TILE IN ARCHITECTURE

Structural Designs of Rare Charm Not Matched by Any Other Materials. ❖ ❖ ❖ ❖

A Few Examples of the Artistic Use of Mosaic Tile and Brick, a Happy Combination Which Affords Color Schemes and Decorative

ARCHITECTURE is the science of building, and since the dawn of civilization brick has played an important part in building, the world over. Architecture primarily means the construction of buildings, bridges, monuments, etc., etc., and it also embraces the artistic, monumental or decorative phase of the work, the soul of our building fabric.

What we call good architecture means, therefore, not merely a well constructed building, but also, to use a common term, an attractive or good looking building. The careful, thorough study of architecture embraces the decorative or ornamental part, as well as the constructive and utilitarian phase.

Attractive, aye, beautiful, buildings can be constructed of brick without using any other materials for decorative support, but beautiful decorative features may be added to a structure by the use of terra cotta or tile. In former times it was not unusual for architects to use marble for inserts and other decorative elements. But for

that purpose marble is not nearly so desirable as tile and terra cotta, for marble does not always keep its color or surface in our atmosphere, pregnant with sulphuric smoke, dust and dirt. Not so with the enameled surface of tile and terra cotta, which are non-absorptive and afford an opportunity for color effects that so far have never been equaled in other materials.

That is why we have today polychrome architecture.

It is true the indiscriminate use of tile has not always been satisfactory, partly from a lack of skill on the part of the designer and partly because tile intended for interior decoration have been used on exterior surfaces and have cracked, spalled or disintegrated when exposed to the elements and extreme temperatures. For that reason it is necessary to develop a material positively frost-proof and enduring in any climate.



Compass in Clay Tile Set in Brick Pavement.

Appreciating these facts, Herman Mueller, a pioneer in art tile work in America, of late years president of the Mueller Mosaic Company, Trenton, N. J., has de-



signed and developed art tiles for structural purposes, and by a skillful manipulation of colors has produced decorative panels and other elements in architecture that have added immeasurably to the color effects obtained in even moderate cost structures. A notable example of clever artistic design and ornament is the Garden Pier at Atlantic City, which we illustrate. It was erected ten years ago, and today the tiling is in first-class condition. The Mueller Mosaic Company has furnished tile for many other buildings in various sections of the country, which have proven in every way satisfactory and demonstrates that mosaic tile are well adapted to exterior decoration.

Concrete or stucco buildings are even more in need of decorative treatment, for without it they are unattractive and commonplace in appearance. The efforts to color or stain concrete or stucco walls have so far failed in this country. Some experiments to apply the "scratchitto" treatment for rough texture effects have not proven satisfactory. It seems that our atmosphere destroys efforts for polychrome effects of that character. The application of frost-proof tile solves these artistic and construction problems. The scope or possibilities of tile for exterior decoration are practically un-

always been an advocate of brick as a building material, but believes in combining with it other suitable clay products which add to the beauty of the completed structure. Architects and builders desiring the perfection of designs and color schemes will do well to visit Mr. Mueller at his plant in Trenton, N. J. They will be accorded a cordial welcome always.

## POTTERY INDUSTRY IN 1920.

### A Prosperous Year.

A PRELIMINARY statement made public by the United States Geological Survey, Department of the Interior, shows that the pottery industry of the country in 1920 was in a prosperous condition. The value of the product, ac-



Faience Frieze Exterior School House, Newark, N. J.

limited; the palette of colors, the various textures, shape, size, etc., easily produced in tile, offer the broadest field for the architect and the decorator. Plain as well as highly elaborate decorations can be obtained at very reasonable cost.

Another example is the M. E. Blatt building at Atlantic City, of which Messrs. McLanahan and Bencker were the architects. It has been called the foundation stone of all coming stucco decoration. The Mueller Mosaic Company not only furnished the tile strictly according to the designs and desires of the architects, but, as is their custom, they carried on an exhaustive series of experiments until they found the proper process of applying this tile in a rational, secure and economical manner.

The accompanying illustrations are taken from various jobs furnished by the Mueller Mosaic Company and demonstrate the attractive free-hand method of executing such work. Of course, the color scheme adds immensely to the beauty of the tile, but the reader will readily appreciate the artistic effects obtained. Mr. Mueller is an artist by nature and by training, and brings to his chosen work a rare individuality. After many years of effort he still retains the enthusiasm of youth for his art; he calls it his hobby. He has



Fire Place Panel.

According to Jefferson Middleton, was the greatest yet recorded. No statistics of the quantity of ware produced are collected, but it is believed that not only was the value of the products the greatest in 1920 but that the bulk also was probably the largest ever made.

The demand for pottery during the early part of the year was unprecedented. The dearth caused by the reduction of imports during the war and the inability of the domestic producers to supply the demand created unusual conditions which prevailed throughout the year, some plants having enough orders on hand at the beginning of 1920 to keep them busy nearly the whole year. The continuation of the de-



mand is the more remarkable in view of the large increase of imports of pottery during the year, which augurs well for the continued and increasing popularity of American-made pottery.

Notwithstanding the great demand and the large value of the output the potters had many handicaps, chief among which were the shortage of fuel, especially in the western district, and the shortage of materials on account of transportation difficulties, both of which caused considerable loss in production, and it was well toward the middle of the year before anything like normal conditions prevailed in regard to fuel and transportation. The refusal of operatives to work full time and the decrease in output per man were further handicaps which it was impossible to overcome.



Fire Place Panel.

There were no general strikes in the industry, but the few minor ones that occurred were sufficient to cause serious loss in production.

#### Increased Production.

The value of the pottery produced in the United States in 1920 is estimated at about \$105,700,000, an increase of 30 per cent over the value in 1919. The increase in 1920 over 1918 was 65 per cent. As compared with the value in 1910 the value of the pottery marketed in the United States in 1920 increased 213 per cent, and as compared with that in 1900

it increased 434 per cent. Every kind of pottery classified by the Geological Survey increased in value except red and brown white-lined cooking ware and chemical porcelain, neither of which is produced in large quantities, for in 1920 they together amounted to less than 1 per cent of the total value. Whiteware, valued at \$39,360,000, showed the largest increase, \$9,660,000; sanitary ware, valued at \$21,480,000, increased \$7,000,000; porcelain electrical supplies, valued at \$18,560,000, increased \$6,370,000; china, valued at \$11,060,000, increased \$3,435,000. Stoneware, the fifth product in importance, was valued at \$6,025,000, and increased \$1,240,000. If chemical stoneware is added the value of stoneware was over \$7,000,000, and the increase was \$1,595,000.

Whiteware and china, which comprise the general household wares and which constitute 48 per cent of all pottery products, were valued at \$50,420,000, an increase of \$13,095,000. If to this sum is added the value of sanitary ware and porcelain electrical supplies, their value would be \$90,460,000 or 86 per cent of the total value, an increase of \$26,465,000 over the value in 1919.



Exterior Faience Decoration in Stucco, Blatt Department Building, Atlantic City, N. J.

The imports of pottery for consumption in the United States in 1920 were valued at \$10,850,772, an increase of 50 per cent as compared with those in 1919. Some of this increase was due no doubt to the increase in the selling price of the ware, but the bulk of imports also increased very considerably in 1920. \* \* \* Notwithstanding the great home demand for pottery, the exports of earthen and stone ware, china, and sanitary ware (valued at \$2,837,469) increased \$601,823 in 1920 compared with 1919 and reached their highest value.

There are two main reasons why it is hard to arouse enthusiasm over inland waterway transportation. One is slow movement of freight, and the other is the uncertainty of the water stages.



## OHIO CLAY NOTES.

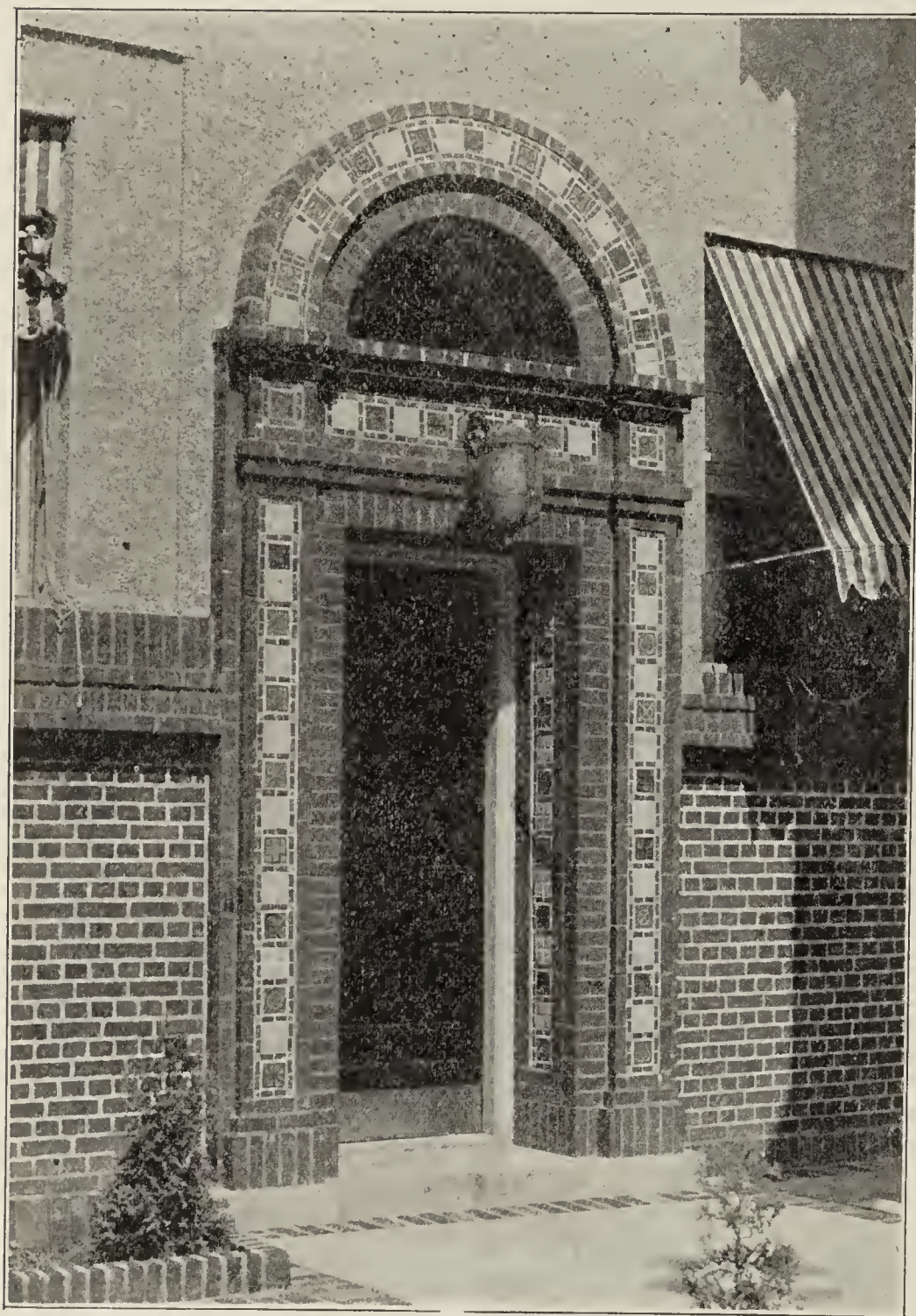


HAT THE DEMAND for brick for building purposes is on the increase is reflected in reports from the office of John H. Burns, treasurer of the Continental Clay Company, Canton, Ohio. June was our best month since operation under the consolidation of the various plants. Mr. Burns said: "We are making more building brick than any other product, and from present indications this line will be given the preference so long as the demand continues strong. It is my opinion that building shows signs

affect the market price of other grades of brick made by the company.

Kilns of the company at Bessemer, Pa., are operating about 75 per cent. capacity. Increased inquiry is being noted. It is expected the price reduction will stimulate further inquiry.

Several thousand dollars will be expended by the Chelsea China Company, of New Cumberland, W. Va., for repairs to the kilns during the next several weeks. The firm will shut off the fires in its continuous kilns the latter part of next week. The New Cumberland pottery has been enjoying a steady run of business during the past few months in spite of the prevailing industrial depression.



*Attractive Combination of Faience and Brick Work on Entrance to Apartment Building, Bronx, N. Y.*



*Panel in Florentine Faience  
Mosaic ◊ ◊ ◊ Page 21*

of revival and that brick manufacturers will get their share of the materials entering into the building."

The Continental Clay Company operates several plants in the vicinity of Canton, and is fast becoming one of the largest manufacturers of clay products in Ohio.

The Metropolitan Paving Brick Company has reduced the price of paving block from \$30 to \$27 a thousand. The new price compares with a high price of \$35 around the first of the year, and so represents a decline of over 20 per cent. from the peak.

The company does not market its building block direct except as No. 2 paving block are used for such purposes. It is expected that the reduction on paving block will similarly

The closing of four brick plants in northeastern Ohio has resulted in the idleness of 300 employes at Strasburg, Zoar and Dover. At Zoar the plant of the Zoar Fire Clay Company is idle. The National Fire Brick plant near Strasburg, owned by the same interests that own the Zoar plant, is still in operation.

To replace the wood in the trestle with steel, the plant of the Columbia Fire Brick Company was closed down two weeks ago. The cost of the improvement will be \$2,500, it is estimated.

The National and Crown plants of the Robinson Clay Products Company, Strasburg, are the only brick plants working at present. Eighty-five men are employed by the National



and 125 by the Crown plant. At the National laborers are receiving 35 cents an hour. The National is working six days a week. The Crown plant is working on a basis of five days a week.

Recovery from the present slump in the brickmaking industry is not looked for inside of a year by a manufacturer in the Dover-Strasburg field.

"Labor is taking the drop curve of reconstruction wages with more grace than mechanics," said the manufacturer. "Before business recovers an even keel there must be an adjustment all around."

The Bonnot Company, Canton, Ohio, manufacturers of clay-working machinery, announced that directors have declared the regular quarterly dividend of 1¼ percent on the preferred stock, payable July 1, 1921, to stockholders on record June 20.

J. B. Van Dyne and Frank Radcliffe have purchased the old electric light building at New Cumberland, W. Va., and will convert it into a factory, manufacturing ash trays, vases and other pottery products. The promoters have placed a small kiln in operation and plan the erection of another kiln within the next few months, or as soon as increased business warrants the addition.

The Massillon China Company's plant, which has been completed, and ready for the installation of machinery, will begin operations just as soon as sufficient stock is sold to finance the commencement of activities.

The plant of the Massillon China Company is located about one and a half miles north of Massillon. It is complete in its construction and is now awaiting the installation of the machinery.

The factory is of six-kiln capacity and others will be added as business warrants. Semi-porcelain ware will be the product, officials announce.

The Tidewater and Western Company has purchased from the Castle Craig Development Company, of Knoxville, Tenn., 28,515 acres of clay and coal land in Laurel, Pulaski and Whiteley counties, Kentucky, for \$4,200,000.

It is estimated the tract contains 200,000,000 feet of virgin timber, besides 285,000,000 tons of coal and clay. No immediate development is anticipated. The officers of the company are residents of Steubenville, Youngstown and Martin's Ferry.

The Dillonvale Brick and Tile Company's plant at Dillonvale, Ohio, which has been idle for a year, is soon to resume operations, it is announced. The plant employs 150 men.

BUCKEYE.

#### CLAYS FOR PAPER.

Discovery of a clay for the manufacture of paper which will be of unbounded benefit to the industry in this country has been discovered by Sidney Wells, engineer of the Forest Products Laboratory, Madison, Wis. The discovery was made in the Madison laboratory where experiments of this nature in wood and paper industries are continually made.

The report of the laboratory states that a highly colloidal clay, which exists in large deposits in the intermountain regions of the United States has been found to be valuable as a leading material for giving finish and printing quality to book paper. When this clay is used in conjunction with English China clay, the retention produced a superior finish and appearance, and a more velvety feel. The ability of the new clay to remain in suspension may make feasible the installation in paper mills of a central mixing plant, from which the loading material can be piped a considerable distance to the beaters, without danger of settling or clogging of the pipe lines, and with assurance that the concentration will remain uniform.

## THE TUNNEL KILN.

I HAVE READ with much interest the communications in the May and June issues of The Clay-Worker on the tunnel kiln. I agree somewhat with the author of the first article that the muffle type of tunnel kiln is a much safer proposition for common clay wares than the open type tunnel kiln. Indeed, I do not know of any open tunnel kiln in which common clay brick are being burned successfully.

While, as stated, I personally consider the muffle type a safer kiln for this purpose, and worth trying out, it is nevertheless a fact that the advocates for the muffle type for common wares have not as yet definitely demonstrated such claims. I think we shall soon know, as there are several tunnel kilns of both types now being erected at various places, and when they are in operation definite comparisons may be made.

Among the kilns referred to above is one near Columbus, Ohio, in which drain tile are to be burned, and later on I believe hollow building tile is to be burned in it also. I hope and believe the kiln will prove successful, but I think the promoters of the muffle type of tunnel kiln will do well to study the particular clays to be used very carefully before making positive guarantee.

Every kiln has its advantages as well as its disadvantages, but the article referred to in the May issue of The Clay-Worker did not bring out the disadvantages of the muffle tunnel kiln.

As I understand it, this kiln is a rather delicate and sensitive piece of mechanism, and if a little something on the inside goes wrong, the whole works stop, just like a watch or a clock. And the stopping of the kiln means the shutting down of the whole plant, since it all forms a continuous chain with the kiln, or, in other words, the whole factory is the clock. It takes ten days to two weeks to cool the kiln, to fix it and to get it back again to the original heat.

So, you see, it takes skilled labor and conscientious labor; it takes vigilance, care and good plant management, in order to make such a plant a successful venture. But it can be done if we get away from the old "brickyard" idea.

The tunnel kiln people know the importance of good material and workmanship, and, as a rule, are doing excellent work. They simply have to.

The tunnel kiln is very, very tempting, just like a pretty girl; but often after we get acquainted with her, we find that beauty is but skin deep.

E. T. TRACY.

#### CHANGE IN BRANCH OFFICE.

The Roessler & Hasslacher Chemical Company, manufacturers of chemicals, known as "America's Leading Ceramic Material House," has opened a new district office at 307 Fulton Building, Federal street, Pittsburgh, Pa.

Mr. Harry W. Smith, who has been in charge of the firm's office at Cleveland for several years, has taken over the management of the new office. He will be able to keep in close personal touch with the clay products producers in and around that city. His territory will take in all points east of Akron and Youngstown, Ohio, all of West Virginia, and Pennsylvania west from Altoona. Mr. Smith, as is generally known, has long been closely identified with the trade.

The Cleveland office is under the management of Mr. Carl Dittmar, who was formerly in charge of the firm's Cincinnati office, which, with the Akron office, has been consolidated with the Cleveland office, with the same headquarters at Cleveland as formerly. The company is still operating the East Liverpool warehouse at East Liverpool, Ohio, from which point they deliver the A 1 Products, together with the well-known R. & H. Precipitated Carbonate of Barytes for the Prevention of Scum on Clay Products.



## THE NEW TARIFF BILL AND THE CLAY PRODUCTS INDUSTRY.

Alfred T. Marks.



CAREFUL analysis of the new Fordney tariff bill, on which the House Ways and Means Committee has been working for nearly six months past, and which was introduced in the House on July 1, indicates that it will doubtless be satisfactory to a considerable degree to the brick and clay industry.

While the measure, as it now stands, has some surprises for clay-products manufacturers—such, for instance, as the doubling of the present duty on “unwrought clay,” from 50c to \$1 per ton—it nevertheless follows rather closely the recommendations submitted to the committee by the various brick and clay products manufacturers who appeared before the committee at the hearings, as well as the wishes of the concerns who mailed their views to the committee, of which there were a considerable number.

It is expected in Washington that, while there will be considerable opposition to various schedules in the bill for sectional and political reasons—indeed, the fight along this line is already well under way—it will finally pass in substantially the form in which it has been introduced. The principal question which the Ways and Means Committee is wrestling with is as to how soon the bill can be brought to a vote. It is stated by Chairman Fordney, of the committee, that if the bill reaches a vote in both houses before November 1 it will be making a remarkable record for a tariff bill. Other sources, equally well informed, give a period of four to five months as likely to elapse before the new law is on the statute books.

Following is the schedule of the bill relating to clay products:

Par. 201. Fire brick, weighing not more than 10 pounds each, not glazed, enameled, ornamented, or decorated in any manner, and brick other than fire brick, 10 per centum ad valorem; glazed, enameled, ornamented, or decorated, 20 per centum ad valorem; weighing more than 10 pounds each and not specially provided for, not glazed, enameled, ornamented, or decorated in any manner, 17 per centum ad valorem; glazed, enameled, ornamented, or decorated, 20 per centum ad valorem; magnesite brick, three-fourths of 1 cent per pound and 10 per centum ad valorem; chrome brick, not glazed, enameled, painted, vitrified, ornamented, or decorated in any manner, 20 per centum ad valorem; if glazed, enameled, painted, vitrified, ornamented, or decorated in any manner, 23 per centum ad valorem; bath brick, 23 per centum ad valorem.

Par. 202. Tiles, unglazed, ornamented, hand painted, enameled, vitrified, semivitrified, decorated, encaustic, ceramic mosaic, flint, spar, embossed, gold decorated, grooved and corrugated, and all other earthenware tiles and tiling by whatever name known, except pill tiles and so-called quarries or quarry tiles, but including tiles wholly or in part of cement, valued at not more than 40 cents per square foot, 8 cents per square foot, but not less than 35 nor more than 50 per centum ad valorem; valued at more than 40 cents per square foot, 38 per centum ad valorem; mantels, friezes, and articles of every description or parts thereof, composed wholly or in chief value of earthenware tiles or tiling, except pill tiles, 38 per centum ad valorem; so-called quarries or quarry tiles, red or brown in color, seven-eighths of one inch or over in thickness, 3 cents per square foot, but not less than 20 per centum ad valorem.

Par. 207. Clays or earths, unwrought or unmanufactured,

including common blue clay and Gross-Almerode glass pot clay, not specially provided for, \$1 per ton; wrought or manufactured, not specially provided for, \$2 per ton.

Par. 210. Common yellow, brown, or gray earthenware made of natural, unwashed, and unmixed clay, plain or embossed; common salt-glazed stoneware; stoneware and earthenware crucibles; all the foregoing not ornamented, incised, or decorated in any manner, and manufactures wholly or in chief value of such ware, not specially provided for, 20 per centum ad valorem.

Par. 211. Graphite or plumbago, crude or refined, not specially provided for, 10 per centum ad valorem.

Par. 212. Earthenware and crockery ware composed of a nonvitrified absorbent body, including white granite and semiporcelain earthenware, and cream-colored ware, and stoneware, including clock cases with or without movements, pill tiles, plaques, ornaments, toys, charms, vases, statues, statuettes, mugs, cups, steins, lamps, and all other articles composed wholly or in chief value of such ware; if plain white, plain yellow, plain brown, plain red, or plain black, not painted, colored, tinted, stained, enameled, gilded, printed, ornamented, or decorated in any manner, and manufactures in chief value of such ware not specially provided for, 25 per centum ad valorem; if painted, colored, tinted, stained, enameled, gilded, printed, or ornamented or decorated in any manner, and manufactures in chief value of such ware, not specially provided for, 28 per centum ad valorem.

### SOFTENING OF REFRACTORY MATERIAL.

The authority for the tests is not given, but in the National Engineer we find the following on refractory material:

“When the fusion point of refractory material is determined, the results actually show the temperature at which a small piece of the material softens under its own weight. When the influence of pressure, as well as that of high temperatures, is taken into consideration far different results are obtained. Fireclay brick begin to compress slowly at about 1,350 deg. cent. when a pressure of 50 lb. per sq. in. is applied. Zirconia brick “squatted” at 1,420 deg. cent. and 1,600 deg. cent. under pressures of 75 and 25 lb. per sq. in. respectively. Magnesia, chrome and silica brick usually show slight signs of softening under pressure and then suddenly shear. Load tests on bauxite brick showed compressions of from 1.96 to 6.35 per cent under a pressure of 25 pounds per sq. in. at 1,350 deg. cent. after one and one-half hours.”

This brings in the question of pressure as a factor in refractory material under severe action. That is, the weight-pressure of walls themselves and the probable pressure of contents when they are used in smelting operations and for similar purposes. It suggests two lines of experimental study. One to determine what may be done in the way of improving the resistance of the refractory material, and the other what may be done in the way of relieving it from pressure in service.

### DOINGS IN METAL.

Reports of price reductions in basic metal industries indicate that these are getting down to rock bottom prices and to a point which will stimulate not only more active buying in hardware and machinery lines, but it should also help stimulate the buying of structural metal, and this in turn will make for more prosperity in brick and hollow tile industries, because it will mean more building. In a word the doings of metal offer encouragement to building and industry generally and constitute one of the good signs of the times.



## ONE OF THE WORLD'S FINEST POTTERY PLANTS NOW NEARING COMPLETION IN TRENTON.



THAT EXPERTS agree is to be the finest pottery unit in the world is now rising rapidly at the home plant of the Trenton Potteries Co. on North Clinton avenue, to be known as the Mutual Potteries Co., adjoining the old Empire plant of the Trenton Potteries Co. With the completion of this new unit, the Trenton Potteries Co. will control six of the largest plants in the city of Trenton, namely: Crescent, Delaware, Empire, Enterprise, Equitable and Mutual potteries.

When this plant is finished it will give employment to three hundred and fifty or more workers, many of them skilled artisans. Practically all the machinery was installed and erected by the Crossley Machine Co. of Trenton. One of the main features of this new plant will be the slip-house unit, which will no doubt be the finest of its kind, also installed and laid out by the Crossley people, who are embodying the very latest ideas and improvements in slip-house construction in this unit.

When this new unit is in operation the company will have some 1,600 persons on its payroll. The plant will then be one to which the trade may look as an example of completeness and efficiency.

All modern machinery and appliances will be installed in the new plant and in some cases equipment never before used in this line of business will be put into operation, thus exclusively showing the advanced ideas in pottery construction. On completion of this new plant it will represent practically an outlay of one million dollars. Another feature of this plant is the numerous conveyors being installed by the Weller Company of Chicago, Ill.

The writer has had the privilege of visiting this plant and watching its progress, and after comparing it with other plants it decidedly represents the very latest in pottery construction.

I trust that the readers of The Clay-Worker will not misinterpret the use of the word unit, which in no sense of the word is used to indicate the smallness of this undertaking, as the "unit" is indeed of tremendous size, which is exemplified by the fact that one of the main buildings is three hundred and eighty-five feet in length and more than seventy feet in width.

This company is for the first time trying out the use of a new tunnel kiln. This kiln is over three hundred feet in length. In addition to this tunnel kiln there will be nine additional tunnel kilns, with all of the required departments and equipment to keep them busy turning out the kind of sanitary ware that has made the Trenton Potteries Co. and the city of Trenton famous the world over, and adds still further lustre to the city's appropriate motto "Trenton Makes the World Takes."

The tunnel kiln provides for the continuous firing of the ware, whereby products will be finished in about forty-eight hours, as in comparison of five or six days with the old round kilns. This new kiln will be large enough to provide for forty-eight cars, each containing approximately from fifteen to twenty pieces of ware. At intervals of one hour a car will be run into the kiln, and another car, of course, will leave the other end at the same time. In this way there will be a continuous passing of the ware laden cars, with a complete firing in forty-eight hours.

The firing of the kiln will be by gas produced at the plant. Other innovations in the new unit will include a

new type and system of conveyors whereby material and products can be handled speedily and economically.

Most of the construction of the new buildings is of reinforced concrete. Bricks and brick panels also enter largely into the building scheme. Modern roofing ideas and fire-proofing add alike to the appearance and durability of the structures.

Stone & Webster, Inc., the engineers, prepared the plans for this new structure from the ideas originated by John A. Campbell, president, and other officers of the concern.

Officers of the company are very optimistic concerning their future. Buying of their products is a little bit off color at the present time, due to the wane in the building construction. But many big building booms are being figured on in all parts of the country and there is expected to be a great demand for sanitary ware after the middle of the year.

The sanitary trade is not like some other lines of business. Jobbers are not heavily stocked and once the building operations are under way, there will necessarily be a lively call for sanitary products.

Among the jobs which the company will supply this season is Trenton's new Stacy-Trent Hotel. All of the sanitary plants in the city will share in this large job, it being the purpose of the builders and promoters to have the city's products generally represented as much as possible in this large new hotel.

Trenton is, by the way, one of the world's greatest clay products cities. It has approximately fifty potteries and several large brick manufacturing companies. These fifty plants employ about eight thousand workers to whom is annually paid approximately \$8,000,000.00 in wages and whose output amounts close to \$50,000,000.00.

It is understood by the writer that the entire output of this company will be taken over by the Crane & Co., while the Trenton Potteries Co. will take care of the additional other orders. On completion of the new plant, it is understood that the Crane Company will move into the old Ideal plant of the Trenton Potteries Co., which adjourns the new Mutual plant. This plant will be renovated into modern high-class offices.

A. POTTER.

### THE RAILWAY LABOR BOARD.

It is being earnestly contended that the railway labor board for adjusting railway labor wages throughout the United States, which came about as the result of war conditions, should now declare that its jurisdiction is ended and that these problems in the future should be handled by the managers of the railroad themselves. It is thought that this is the first essential to restoring better railway conditions. At the recent conference in Chicago, of the State Manufacturer's Associations a resolution to this effect was passed. Moreover they felt that the question was so immediate and important that business men throughout the country should protest against the tendency to nationalize the transportation system of the country.

### FUNDAMENTALS IN THE POTTER'S FIELD.

The Fundamentals in the Potter's Field, Volume 2, a pamphlet published by the Chas. M. Franzheim Co., Wheeling, West Virginia, is published in the interest of the ceramics industry and to carry a message of the products handled by this concern, which consists of feldspar, flint, china clay, paris white, sagger clay, etc. The pamphlet contains some interesting data on burning, glazes, and saggars as well as a description of the products mentioned and will probably be appreciated and preserved for reference.



## MODERN BRICKMAKING IN SOUTH AMERICA.

By B. J. Reagan.

Chapter II.

Machine Made Bricks.

**N**EW METHODS are being constantly invented to save labor in the brick plant. To replace the moulding of bricks by hand, the so-called soft-mud process has been developed. Strong and highly plastic clays are hardly adapted to this method.

The average type of soft-mud machine consists of pug-mill or mixing machine, in which the clay passes through a box where the clay is shaped and forced into the box mould, or a group of moulds fastened together. The clay is propelled into these moulds by a series of special blades placed just above the mould. The old method of throwing the clay into the moulds, is in this way averted and the clay falls of its own weight to the moulds and there com-

the right mixture of water and clay (and in some instances pre-burned clay) is sought to insure even formation at the die and to insure against a swelling of the clay ribbon when released from the mouth of the die.

The best modern machine of this type, consists of one large pug-mill placed from four to six feet above the brick machine. This primary pug-mill is generally horizontal, of sufficient length and width, a sufficient number of blades on a rotating shaft to insure both complete mixing of the ingredients and a supply sufficient for the capacity of the brick forming machine.

When the blades are staggered enough to assure proper mixing, propulsion of the clay is decreased. The length and size of the mill must therefore, take this into account. This is true, also where two pug-mills are used.

Whether the clay is dropped from the primary mill into the one in the machine proper, or is mixed wholly in the latter one, the drop of the mixed clay into and through the die is obtained by a series of blades arranged spirally in the



The Gravity Carrier, One of the Great Labor Saving Devices on Modern Brick Plants.

pressed by some mechanical means. The filled mould is then withdrawn and replaced by one that is empty, the former being "struck" to remove any surplus clay that may adhere to the mould.

### Wire Cut Brick.

The more rapid method of manufacturing consists in forcing the clay through a "die" of just the form required. The clay comes forth in a ribbon usually about ten inches wide by five inches thick for the standard American brick. This ribbon is then cut up into bricks of the width desired, bindings of wires cutting the clay bar. This type of brick forming and cutting is very simple. The principle care required is in maintaining the clay at just the right consistency.

In the process of manufacturing wire cut brick, there are three important factors:

1. The pugging.
2. The forming of the die.
3. The cutting.

### The Pug-Mill.

It has been said that the modern brick is given its character at the pug-mill. By this is meant, that there is just

head of the machine so as to form a true helical or a screw thread. This spiral screw machine is known as the augur type.

Proportions of the mixing mill to the augur proper, is from two or three to one, depending upon the mixing required in various clays and upon the force required to form and maintain a continuous flow of the clay ribbon or bar through the die.

If the propelling force is too small the clay will not effect this continuous flow, or will be too hard to drive; and if too great the clay will be pushed more rapidly than it can be mixed and will, therefore, tend to cause a swelling or buckling of the clay bar, resulting in brick of unequal size and shape.

Granted a right and sufficient mixing and propulsion, the next important step is the actual shaping and moulding of the brick to the required form. This begins in the mouth-piece, into which the clay is forced by the augur and ends in the die, the opening of the machine's head, which gives the final form to the bar. Because of its contact with the



mouth-piece the clay moves forward faster in the center. This is apt to result in laminations, or a separation of the outer surface of the bar from the faster moving core, unless just the right mouth-piece is adopted to the clay in use.

The mouth-piece in most general use, consists of a rectangular aperture of the size and shape required, with additional backing up features of increasing apertures to permit the gradual formation of the bar. This built-up mouth-piece is used widely and consists of a series of from three to six plates fitted one into the other.

In spite of this gradual method of formation, lamination is still apt to occur unless other means are used to lubricate the flow of the clay stream. This is usually done by admitting water, oil, or steam into the mouth-piece as a lubricant. This has been found to be the most successful method yet devised for overcoming this difficulty. The aim is to cover

piano type, must be very tough though fine. They are generally hooked at one end of the frame and fastened with a butterfly nut at the other. The requisite here is simplicity and ease of in replacement, due to breakage. It is imperative that the wires be kept tight (but not too tight) else the cut is apt to be jagged. The best practice is to have the wires cut to proper length and each end twisted into a loop for rapid replacement.

The cutter consists of a table upon which the clay rests while being cut; the frame holding the wire; and some means of moving the frame across the column and—in a cutter that functions while the column moves—some mechanism to move the frame simultaneously with the ribbon through the required distance and to reciprocate for the next cut. The movement of the cutter may be started automatically or by hand.

The most modern cutter is of the rotary type. It consists generally of a platen, slotted to the size of the cut desired and supported on the rod from which the cutter wires are stretched radially. This cutter is automatically shuttled, toward the head of the brick machine, for a distance sufficient to permit the passage of the wires through the clay ribbon as



Entrance to Tunnel Kiln.

the surface of the die which is sometimes wood, though generally of steel. Perfect lubrication is seldom obtained but a properly constructed die permits satisfactory lubrication.

The ribbon of clay, after it leaves the die, should be smooth and rectangular—a cross section, that of a brick. In some cases, the ribbon is smaller, its dimensions conforming to the thickness and width of the brick instead of the width and length. This method, unless two ribbons are run off at once, is slower in production. Besides, these two columns of clay are not easily drawn simultaneously from the mouth of the same machine. But whether the aim is to cut the brick in the form of its thickness or its length, the cutting process is the same.

#### The Cutter.

The column is cut into bricks by means of wires stretched on a frame at the required spaces. These wires, of the best



Glimpse of a Modern Brick Plant in South America.

it moves back with the untouched portion of the bar on its platen.

#### Other Processes.

Besides this method of forming brick there are other processes for moulding from clays worked into varying degrees of plasticity—from those machines using plastic paste to those employing “stiff” plastic paste, clay which has the plasticity developed just enough to hold the particles together, and clay which is dry and in powder form but moist enough to keep its form after being moulded under high pressure.

Until recently bricks made by this last dry-pressed method were extremely popular, but the demand for rough-faced brick made this process less widely used.

Whatever the methods employed, it is advisable to handle the bricks as they come from the machine as little as possible before being dried. Special care should be taken of the cars used to convey the bricks to the dryer and into the kiln. While most of the oil used for lubricating the wheels of these cars will be evaporated by the dryer heat, great care should be exercised to oil them well before loading and after drawing them from the dryer tunnel. It is well to understand the importance of this drying process. The old



days of drying in the open air have been superseded by chamber or tunnel drying with artificial heat and this method requires special attention. But the result is well worth the care taken.

#### Drying.

The first heat applied to the brick turns the moisture into vapor and if this heating is too rapid, cracking results. If the moisture is not drawn away, obviously the brick will not dry. The drying proceeds in proportion to the amount of air coming into contact with the brick and if this air is warm, it can take up two, three or four times as much moisture. Hence the use of heated air.

As the brick dries on the surface first, the moisture from within is drawn outward by capillary attraction. The particles fall into spaces occupied by some of the water and the brick shrinks and becomes denser.

Here care must be taken lest too rapid a heating, a draught, or a sudden change of temperature will cause the brick to crack or to dry out of shape.

Brick dryers vary from a single chamber to a series of tunnels of great drying capacity. This latter type is now almost in universal use.

It consists of a long tunnel into which the cars of moist brick enter, pass slowly through and out at the other end thoroughly dried. The tunnel is wide enough for one car and long enough to admit as many cars as can be dried in the period required for thorough drying.

The bricks are not treated directly but warm air is applied of a temperature suited to the amount of moisture in the brick and to the amount of air drawn off. Generally the heat from a fire box at the exit end of the tunnel is carried the full length of the tunnel to the tunnel end then emitted through a stack. The warm air rising draws off the moisture from the brick and is then carried off by an appropriate system of ventilators, stack or fans.

This method of drying has revolutionized brickmaking by effecting an astonishing increase in the plant's capacity.

Now that capacity is usually limited only by the final process—burning.

#### The Burning of Brick.

The most important phase in the manufacture of brick is this last process. This is due to the fact that it comes after all the processes of manufacture have added value to the original clay and any loss in burning involves a loss not only in power and labor, but also of fuel and of the clay itself as clay once burned cannot be made plastic again.

Obviously the object of burning brick is to make them lasting and durable. The proper degree of burning results in a finished product consisting of rock-like particles made firmly coherent by a species of slag or glass. Such bricks are vitrified and will last longer than bricks that are left non-fused and porous.

The temperature required to burn bricks to make them satisfactory depends upon the nature of the clay, the method of manufacture and the use to which the bricks will be subjected.

Perhaps the greatest handicap in burning experienced until recent years was the absence of a dependable means of gauging the progress and extent of the heat applied. Many means have been used with partial success. Foremost among the methods employed until recently—and to some extent still in use—was the "Seger Cones" compounds of china clay, felspar, marble and sand made into small three-sided pyramids, devised to bend over at certain temperatures.

But the most accurate and dependable instrument used in

the leading plants today is the electrical pyrometer for registering and recording the temperature at all times during the burning. In order to control the draught and to keep the heat uniform throughout the kiln to avoid warping through rapid shrinkages, it is advisable to insert pyrometer tubes in the bottom and top of each door of the kiln and at intervals along its roof.

By this means the burner can control the heat from one board, where he observes the record of each pyrometer of every kiln under fire. This method is particularly advantageous in connection with continuous kiln burning. In determining the type of kiln to be used, it is well to keep in mind the difference in amount of fuel used, the initial cost of building, the durability of the kiln, the interest on the capital used and the cost of repair. The saving, however effected by this latest type of kiln will pay for its erection through coal saved in 10 or 12 years.

In common single kilns the fuel is burned in fire boxes, the gases pass through and around the brick to keep them to the temperature desired.

This kiln may be one of three types, horizontal, up-draught, or down-draught. The first has the fires at one or both ends, and the gases are taken away at the center or opposite end. These kilns are not widely used today.

The up-draught kilns of rectangular or circular shape are so constructed that gases from the fire boxes pass up through the bricks and out at the top of the kiln.

Down-draught kilns are constructed similarly except that the hot gases from the fire boxes first rise through an annular space to the top of the kilns and are then drawn down through and across the bricks and out at flues laid in the floor by means of a draught set up by a chimney or a fan. The heating of this type of kiln is much more regular than in either of the preceding.

In these kilns the bricks are set so that the gases will pass as freely as possible over the surfaces of each brick. After the lighting of the fire, care and slowness must be exercised to raise the temperature gradually at first, then more rapidly until the bricks are heated sufficiently. Control and slowness at first are required to permit the moisture to be carried off. Otherwise the steam formed could not escape and cracking would result. This process is called "water-smoking."

Bricks of plastic clay often contain a pound and more of water, and even when dry retain not less than one-seventh of the amount required to be accounted for in the first stage of the burning. This period lasts from two to four days and the fires should be watched carefully to keep them smouldering or smoking and not burning brightly.

Various methods are employed to ascertain the completion of this period such as inserting a cold steel bar into the kiln to see if moisture will be deposited. This temperature is generally about 120 degrees centigrade.

When no apparent moisture is any longer being removed the heat is gradually raised to a dull red and held here until a further emission of steam occurs. Sample bricks are withdrawn from the top and bottom of the kilns and are broken to ascertain if the "core," or final carbon and vegetation mark had been burned out of the bricks' center. This test is employed by practical burners where the vapors drawn off no longer disclose the presence of moisture. This secondary vaporization is due to the destruction of the clay substances, the liberation of any remaining water, and the burning of any plants and carbon present with the clay. If this stage of burning is pushed too hard discoloration and swelling or cracking may result. When all the carbonaceous matter has been burned out as indicated by the clearness of

(Continued on page 82.)



## RECENT PATENTS

### IN THE CLAYWORKING INDUSTRY.

(Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering give patent number only.)

**No. 1,377,525. Brick Machines.** Arthur Root, Wilkes-Barre, Pa., patentee.

A patent awarded for a brick-making machine having a wire reel and actuating mechanism therefor, including a positive clutch, and mechanism for causing the engagement and disengagement of the clutch elements comprising a cam, a cam-operated rocking lever, a shift lever actuated thereby, a cam shaft and means whereby the shaft is capable of a partial movement independently of the cam.

**No. 1,377,572. Cored Channel Brick and Wall Construction.** Jonathan P. B. Fiske, Newton, Mass., patentee. Patent assigned to Fiske & Company, Inc., Newton, Mass.

Hollow wall construction comprising twin walls composed of a plurality of channel bricks, each brick having a pair of wall sections connected by a body portion extending from one wall section to the other across the inner air space and disaligned from the horizontal center of the brick, each wall section having a cored portion and two channel portions, at opposite sides, these channel portions comprising a mortar-receiving recess and a pair of spaced ribs, and mortar filling adjacent recesses of superimposed brick and extending across the edges of the pairs of ribs of each channel.

**No. 1,377,667. Brick-Carrying Frame.** William N. Cary, Albany, N. Y., patentee. Patent assigned to American Equipment Co., Chicago, Ill.

Patent for a frame for carrying brick with end frames therefor, there being means provided between the frames for permitting connection and disconnection of the end frames from carrying frame by lateral movement of such end frames.

**No. 1,378,190. Combustion Chamber for Kilns.** John B. Owens, Zanesville, Ohio, and Ellsworth P. Ogden, Columbus, Ohio, patentees.

A tunnel kiln having a combustion chamber at its sides, a baffle for the upper part of the combustion chamber where the latter faces the interior of the tunnel, and piers supporting the baffle, said piers being separated by discharge ports or passages through which the heat and products of combustion pass from the combustion chamber to the interior of the tunnel.

**No. 1,378,710. Lining for Kilns.** Albert F. Meyerhofer, Mannheim, Germany, patentee.

Patent given for a lining for the purpose named which consists of an inner layer containing a high percentage of corundum combined with an insulating layer of porous brick.

**No. 1,378,735. Building Brick.** George H. Talbott, Newtonville, Mass., patentee.

A building brick comprising a top face having ribs adjacent its edges forming a mortar-receiving groove there between, and a bottom face having flat surface complementary to said mortar-receiving groove but of less depth, the lower face being chambered, whereby mortar in the groove which is displaced by the superimposed brick will enter the chamber in the latter without overflowing from the groove.

**No. 1,379,636. Building Tile.** Timothy Lydon, Baltimore, Md., patentee.

A building tile having, at a plurality of sides, edges which project from the outer face and extend laterally beyond the

inner face of the tile, and also having, at plurality of other sides, additional edges which project from the inner face and project laterally beyond the outer face of the tile, whereby to form overlapping and underlapping projecting edges at different sides of the tile, and said tile having a notch cut entirely through the edges which project from the inner face.

**No. 1,379,714. Cooling Means for Kilns.** John B. Owens, Zanesville, O., patentee.

A tunnel kiln having a furnace for delivering heat into the interior of the tunnel and provided with a sealed cooling zone whose side walls are provided with air-circulating spaces sealed from the interior of the cooling zone, said spaces being adapted to receive outer air at their lower parts and to avoid the air at their upper parts, and being arranged and adapted for the upward passage of the outer air for the purpose of cooling the inner walls.

**No. 1,380,700. Refractory Material and Process of Making Same.** Charles H. Breerwood, Philadelphia, Pa., patentee.

The process of making refractory substances for use in making refractory linings of walls of furnaces, crucibles, etc., which consists in introducing material adapted to form a sinter in a finely decided state into a furnace, mixing it with small pieces of material to which the finely divided substance is adapted to adhere.

**No. 1,380,701. Process for Making Dolomite Bricks.** Charles H. Breerwood, Philadelphia, Pa., patentee.

A process of making dolomite bricks which consists in grinding dolomite containing a small amount of iron exceedingly fine, burning the mixture at an exceedingly high temperature to amalgamate it, regrinding the burnt mixture exceedingly fine and compressing it under great pressure into the desired brick shape.

**No. 1,380,776. Apparatus for Handling Brick.** Ralph B. Cobb, River Forest, Ill., patentee.

Patent for a brick-handling apparatus which consists of a frame having a plurality of parallel arms projecting therefrom and adapted to be introduced into the spaces between parallel rows of bricks, the clamping device carried by said arms and arranged to be directly actuated or operatively engage the bricks of such rows by the weight of bricks superimposed thereon.

**No. 1,381,625. Furnace Brick.** Clifton R. Finch, New York, N. Y., patentee.

Patent for brick for a furnace having a longitudinally extending chamber opening through the opposite ends of the brick, and ducts in the brick extending transversely with respect to the chamber and running from a plurality of points in the length of the chamber to the opposite lateral faces of the brick, said ducts connecting the chamber to the outside of the brick both through the middle and adjacent to the opposite longitudinal edges.

#### Trade-Marks and Designs Patented.

**No. 142,287.** Laclede-Christy Clay Products Co., St. Louis, Mo. Trade-mark registered for refractory tiles and bricks for furnaces.

**No. 142,362.** Crescent Refractories Co., Curwensville, Pa. Trade-mark registered for fire bricks and tile manufactured from fire-clay for furnaces.

**No. 142,363.** Crescent Refractories Co., Curwensville, Pa. Trade-mark registered for fire brick and tile.

**No. 142,364.** Crescent Refractories Co., Curwensville, Pa. Trade-mark registered for tile and fire brick made from fire clay.

**No. 143,484.** Summitville Clay Products Co., Summitville, O. Trade-mark registered for bricks and building blocks.

**No. 143,432.** Pre-Cast Products Co., Philadelphia, Pa. Trade-mark registered for bricks and building blocks.



## THE CORRECT USE OF MASONRY MORTAR.

Interesting Facts Regarding Straight Lime Mortar and Notes on Test Made.



MORTAR is used in masonry construction for three reasons, which in the order of their importance are: First, to provide a uniform support to the structural units such as bricks, stone, concrete blocks, etc. Second, to provide a material which will stick to the units and prevent them from shifting their positions and, third, to fill up what would otherwise be cracks in the walls, and so keep out the weather and the cold.

### What Properties Should Good Mortar Possess?

Good mortar should be strong enough to stand the loads which may be brought to bear on it, should be permanent and not disintegrate and wear away from the action of the weather, should be of such a nature as to be easily worked and placed in the structure, should be as cheap as is consistent with good construction, should be of such a nature that its tendency to stick together and to stick to the structural units should be as nearly alike as is possible and it should be made of such materials as may be readily obtained in every neighborhood so as to be able to take advantage of the lower cost of available materials.

### How Does Lime Mortar Fulfill These Requirements?

In considering the answer to this question, we will not follow the order of requirements given above strictly, but will consider them more in chronological order.

**Permanence:** When we consider that lime mortar was used in the construction of the Pyramids of Egypt, which were probably built about 5,000 years before Christ, in most of the temples of ancient Greece, in the prehistoric structures of Peru, Mexico, Yucatan and Thrace, in all of the cathedrals and other monumental structures of Europe, and find that this mortar is still in good condition, and has, in many of the most ancient ruins, resisted the ravages of time better than the structural units, can any doubt remain as to its permanence?

**Availability of Ingredients:** Limestone, being one of the most widely distributed materials on earth, and the material from which lime is made, there are very few localities where a supply of lime is not readily obtained. The other ingredient of lime mortar is sand and this also is very widely distributed and easily obtained.

**Preparation of Lime Mortar:** The preparation of lime mortar is simplicity itself. The lump lime is supplied with water, or as is commonly called, "slaked," and after all bubbling has stopped and the slaked lime has cooled off, the resulting paste or putty is simply mixed with the proper amount of good clean sand. Certain precautions should be taken in order to obtain the best results when slaking the lime, but these are very simple and any well informed dealer will gladly tell just how the lime he handles should be treated.

**Storing Mortar Until Wanted:** As long as lime mortar is kept piled up in a relatively compact mass, it will not harden or "set." This property is a very valuable one, in that a large supply of mortar may be prepared and kept until wanted, as a matter of fact lime mortar is all the better after being stored for a time. When wanted for use, a part of the stored mortar may be taken and mixed with enough more water to bring it to good working consistency. As lime mortar stiffens up or dries on the mortar board, it can be retempered or have more water mixed with it, without in the least injuring its cementing value, this is not the case when

any cementing material other than lime is used, and constitutes one of the most valuable properties of lime mortar, at the same time this property makes lime mortar the cheapest mortar which can be used since there is no loss or waste from hardening due to unexpected delays in construction or when the mixer misjudges the amount of mortar required.

**Base of Working and Placing:** When slaked lime is mixed with water, it makes the smoothest, slipperiest and at the same time the stickiest material used in construction. This smoothness allows the paste to be well and easily mixed with the sand, so that each individual sand grain may become completely covered with a layer of paste. The slipperiness makes the paste act as a lubricant and lets the individual sand grains slide over and around each other with a minimum of effort; this means not only easy working mortar but allows the mortar to adjust itself to, and fill in the irregularities of the surfaces of the structural units, thus providing a more uniform support. The stickiness holds the several sand grains together and prevents them from being separated or rolled out of the mortar by the trowel, it also causes the sand grains to be stuck to the structural units better, thus increasing the adhesion of the mortar to the structural units.

### Practical Application of These Facts.

It is self-evident that mortar composed of easily obtainable materials, which do not require elaborate preparation, and which after being prepared may be stored, retempered and kept without loss of strength or material and which can be put into place with a minimum of effort, is the best which can be used from the point of view of economy, as regards both cost of materials and labor.

It is also self-evident that the more uniformly supported a brick or block of stone is, the greater strength it will develop in a structure; it has been proven that lime mortar gives more uniform support to such structural units than does any other material used in mortar, which accounts for the fact that either straight lime mortars or cement-lime mortars with the proper percentage of lime develop such great strength in masonry.

### The Proof of the Claims Made.

Prof. Macgreggor of Columbia University, New York, made a series of tests to determine the relative strengths of mortars composed of varying percentages of lime and Portland cement. The specimens he used were brick piers eight inches

| Mortar No. | Composition of Mortar                                 |                                | Compressive Strengths of Piers |         |        |                      |
|------------|-------------------------------------------------------|--------------------------------|--------------------------------|---------|--------|----------------------|
|            |                                                       |                                | Lbs. Per Sq. Inch              |         |        |                      |
|            | Volumes                                               | Weights                        | Face Brick 7days               | 28 days | 3 mos. | Common Brick 28 days |
| 1          | Cement ... 1<br>Sand ..... 3                          | 100 lbs.<br>300 lbs.           | 2630                           | 2840    | 2840   | 1170                 |
| 2          | Cement ... 0.9<br>Hyd. Lime .1<br>Sand ..... 3.0      | 90 lbs.<br>4 lbs.<br>300 lbs.  | 3080                           | 3170    | 4435   | 1189                 |
| 3          | Cement ... 0.85<br>Lime ..... 0.15<br>Sand ..... 3.00 | 85 lbs.<br>6 lbs.<br>300 lbs.  | 2890                           | 3230    | 4300   | 1340                 |
| 4          | Cement ... 0.75<br>Lime ..... 0.25<br>Sand ..... 3.00 | 75 lbs.<br>10 lbs.<br>300 lbs. | 3120                           | 3470    | 4170   | 1685                 |
| 5          | Cement ... 0.50<br>Lime ..... 0.50<br>Sand ..... 3.00 | 50 lbs.<br>20 lbs.<br>300 lbs. | 2760                           | 3100    | 3820   | 1300                 |
| 6          | Cement ... 0.25<br>Lime ..... 0.75<br>Sand ..... 3.00 | 25 lbs.<br>30 lbs.<br>300 lbs. | 1945                           | 2370    | 2720   | 1032                 |
| 7          | Lime ..... 1.00<br>Sand ..... 3.00                    | 40 lbs.<br>300 lbs.            | 1535                           | 1870    | 1950   | ....                 |



square and seven feet high. These piers were laid up by a practical mason. In most of the tests, he used hard face brick in order that the relative values of the mortars might be demonstrated. The piers were placed in a testing machine and loaded until they failed. The figures shown on opposite page are the average values of three piers tested at each of the ages indicated. A check set of six piers laid up with common brick were made and the results obtained from these specimens are also shown in table mentioned.

While Prof. Macgreggor used hydrated lime in his experiments, similar results would have been obtained had lump lime paste been used instead. Mortar mixtures which are practically the same as the Number 5 mortar, may be obtained by mixing three (3) ordinary ten quart pailsful of lime paste made from slaked lump lime, to one bag of Portland cement, eighteen (18) pailsful of sand. The number seven (7) mortar may be made by mixing three (3) pailsful of lime paste with nine (9) pailsful of sand.

The following tests were made by Howard and reported in Burr's "Elasticity and Resistance of Materials of Engineering," Sixth Edition, Page 420.

| Height<br>of Pier<br>Ft. | In. | Section<br>of Pier<br>Ins. | Composition<br>of Mortar |      | Weight<br>Cu. Ft.<br>Lbs. | Ultimate<br>Resistance<br>Lbs. Per<br>Sq. In. |
|--------------------------|-----|----------------------------|--------------------------|------|---------------------------|-----------------------------------------------|
|                          |     |                            | Lime                     | Sand |                           |                                               |
| 1                        | 4   | 8x8                        | 1                        | 3    | 137.4                     | 2520                                          |
|                          |     |                            |                          |      | 133.5                     | 1877                                          |
| 2                        | 0   | 12x12                      | 1                        | 3    | ....                      | 1940                                          |
| 2                        | 0   | 12x12                      | 1                        | 3    | ....                      | 1900                                          |
| 10                       | 0   | 12x12                      | 1                        | 3    | 131.7                     | 1511                                          |
| 10                       | 0   | 12x12                      | 1                        | 3    | 125.0                     | 1807                                          |
| 1                        | 4   | 8x8                        | 1                        | 3    | 135.6                     | 2440                                          |
| 6                        | 8   | 8x8                        | 1                        | 3    | 133.6                     | 1540                                          |
| 2                        | 0   | 12x12                      | 1                        | 3    | ....                      | 2150                                          |
| 2                        | 0   | 12x12                      | 1                        | 3    | ....                      | 2050                                          |
| 9                        | 0   | 12x12                      | 1                        | 3    | 131.5                     | 1118                                          |
| 10                       | 0   | 12x12                      | 1                        | 3    | 136.0                     | 1587                                          |

From the above it will be noted that the average weight of the face brick masonry was 131.9 lbs. per cubic foot and the average strength of the masonry was 1,926 lbs. per sq. in. and the corresponding figures for the common brick are 134.2 lbs. per cubic foot and 1,814 lbs. per sq. in. A set of similar tests made on piers laid up with one part Portland cement to two quarts of sand, using common brick gave an average weight of 131.0 lbs. per cubic foot and a strength of 2,203 lbs. per sq. in.

Sabin in his book "Cement and Concrete," page 297, reports some interesting tests conducted to determine the adhesion of mortar to brickwork. He used fresh lime paste from three days to, one week old and old paste which was from five to six months old. The average results which he obtained are presented below in pounds per square inch. His brickwork specimens were three months old when he tested them.

Tests conducted at the Watertown Arsenal on brick piers twelve inches square and from one foot four inches high to ten feet high on fifteen specimens using straight lime mortar mixed one quart lime to three parts sand gave an average crushing strength of 1,508 lbs. per square inch.

#### Conclusions to Be Drawn.

Much more data of a similar nature could be presented, but it is felt that what has been given will show conclusively that straight lime mortar will produce masonry of brick which will develop an ultimate crushing strength in excess of 1,500 lbs. per square inch. Let us see what this means when expressed in terms of building.

Ordinary brickwork weighs from 130 to 14 lbs. per cubic foot, let us assume the larger weight and we see that for each foot in height we will have a pressure of less than one pound per square inch on the bottom mortar bed, to be exact the pressure will be 0.96 lbs. per square inch. Most building codes allow a pressure of 100 lbs. per square inch on lime mortar and we can see from the above that this is less than one-tenth of the lowest average strength we may expect to get. In order to develop this load of 100 pounds per square inch an ordinary brick wall would have to be at least 104 feet high. In the case of an ordinary two-story house with eighteen feet front, assuming the houses to be built in pairs, the greatest load which could come on any mortar joint in any part of the structure would be about 70 lbs. per square inch, if an eight-inch wall were used.

TYRRELL B. SHERTZER,

Construction Engineer,

Eastern Bureau, National Lime Association, New York City.

#### COAL CONTRACTING.

We are practically back to normalcy in the coal business now and this means taking up again the matter of contracting for coal on the yearly basis. In the old days right after the first of April coal mine operators sought to contract with the users on the yearly basis until they had placed at least half the producing capacity of their mines. During and following the war period conditions were such as to make contracting difficult, uncertain and undesirable. Now, however, we are settling down to a point where contracting is the logical thing again. Also the coal situation while it has not brought about as much lowering of wages and prices as was hoped is down to a pretty low level and conditions are such as to invite contracting. The man who can contract now on the basis of present prices for his coal needs for the year will at least know what his fuel costs are to be and the chances are he will not lose anything by it.

#### OPEN SHOP ARGUMENTS.

When we sift down the argumentative claims and counter claims in the open shop arguments as between employers and employes it revolves itself into this. The union leaders object to the open shop mainly because it makes more difficult the securing of the full membership in their unions. The closed shop makes union membership compulsory while the open shop would leave it purely voluntary and more likely result in a dwindling membership. That apparently is why the union leaders maintain that the open shop policy is intended to break up the unions. The employers on the other hand claim that the closed shop would prevent them from employing non-union men and would hamper their freedom in choice and movement, and in this they are undoubtedly right. The union leaders really have a poor line of argument here because unless they can maintain their membership on a voluntary basis without a closed shop then they do not deserve to maintain it. No association of business men would be permitted to use the closed shop principle in its work and discriminate in any manner against non-members. This is both law and logic and it should be applicable to labor unions as well as business associations.

| Cement<br>Gms. | Lime<br>Gms. | Sand<br>Gms. | Kind of Brick |      | Method of Storage |      | Kind of Paste |      | Mean of<br>All Tests |
|----------------|--------------|--------------|---------------|------|-------------------|------|---------------|------|----------------------|
|                |              |              | Hard          | Soft | Damp Sand         | Air  | Fresh         | Old  |                      |
| 240            | 0            | 960          | 22.2          | 15.7 | 26.3              | 17.7 | 19.5          | 18.5 | 19.0                 |
| 240            | 80           | 960          | 43.2          | 36.4 | 40.5              | 39.2 | 40.0          | 39.6 | 39.8                 |
| 200            | 120          | 960          | 44.0          | 42.9 | 44.1              | 42.8 | 38.6          | 48.8 | 43.7                 |
| 180            | 180          | 960          | 40.7          | 40.7 | 42.5              | 39.0 | 40.2          | 41.0 | 40.6                 |



## THE CERAMIST'S CORNER

*This is a department which appears in The Clay-Worker from time to time dealing with practical and technical matters of especial interest to the ceramist. This month we publish the current items on various matters pertaining particularly to the interests of manufacturers of the higher grade ceramic ware.*

### THE MID-SUMMER MEETING.

THE American Ceramic Society's summer meeting which consists chiefly of inspection tours of plants of particular interest to all technically trained men in the ceramic industry will be held in Canton, Alliance, Sebring and East Liverpool, Ohio, July 25, 26 and 27.

A good attendance is expected due to the fact that a great majority of the membership live within a night's ride of Canton, O., and the common knowledge that these summer meetings are always very beneficial to all in attendance.

A special meeting of the Heavy Clay Products Division of the society is to be held some time during the three days and all manufacturers of heavy clay products are being urged to be present.

The program as given out by the chairman of the committee, Ira A. Sproat, is as follows:

Leave Hotel Courtland, Canton, O., 10 a. m., Monday, July 25, on special cars for Dueber Watch Case Company's plant. After the trip through this interesting factory the party will return to the hotel for luncheon and at 1:30 special cars will take the delegates to the plant of the Bonnot Company, where a complete line of clayworking machinery is manufactured. At 3 p. m. the ceramists will visit either the Canton or Republic Stamping and Enameling plants. At 7 p. m. automobiles will convey the hilarious bunch to Congress Lake Country Club, where a banquet will be served.

The drive from Canton to Congress Lake is a very fine one over about eighteen miles of perfect brick pavement, while the country club is one of the finest in the country. The cool refreshing breezes from the lake, combined with a delicious and appetizing menu and exquisite service, make this an ideal place to dine on a hot July evening.

Besides a few short after-dinner speeches by speakers of national reputation, there will be several unique entertainment features.

At 9:00 a. m. Tuesday morning the ceramists will leave on special cars for Alliance, arriving at Mahoning avenue stop at 10:10. The party will be met with automobiles and taken direct to the No. 2 plant of the Alliance Brick Company. Here the members will have opportunity to see one of the most modern brick plants in the country. The bricks are burned in a Richardson compartment kiln with producer gas. At 1 p. m. a complimentary luncheon will be given at the Alliance Country Club by the ceramic industries of Sebring. At 2 p. m. the party will leave for Sebring by automobile, where the Limoges China Company, the Sebring Pottery Company, and the Strong Enamel Company will be visited. The Dressler tunnel kilns at the Limoges China Company, and the McFall oil burning equipment at the Sebring Pottery Company will be of special interest to members.

The evening will be given over to a theatre party and complimentary smoker at Meyers Lake, near Canton, O.

Wednesday at 7 a. m. the delegates will leave in automobiles for East Liverpool, arriving at about 10 a. m., where a trip will be made through the factory of the R. Thomas & Sons High Voltage Electrical Porcelain Factory, where a tunnel dryer and oil burning kilns will be seen in operation. A complimentary luncheon will be served at the Elk's Club.

In the afternoon the plants of the Homer Laughlin China

Company, at Newell, W. Va., and the Knowles, Taylor & Knowles Company, East Liverpool, O., (both general ware) will be visited.

The visit to the factories in East Liverpool will be conducted in ample time for members to take the 6:40 train to Rochester, Pittsburgh and the east. At Rochester connections can be made with Pennsylvania train No. 115 for Chicago and the west.

### ALUMINUM AND BAUXITE.

HERE COMES from Consul General Robert P. Skinner, of London, a report on the aluminum and bauxite production of the world compiled by the Imperial Mineral Resources Bureau.

The report first goes on to state that aluminum is a white metal having an atomic weight of 27.1. It is the lightest of common metals and has a specific gravity of 2.58. The chief aluminum minerals are corundum (alumina), bauxite, hydrargillite and diaspore (hydrated oxides), cryolite (a fluoride of aluminum and sodium), alum, alunogen, and alunite (sulphates), and numerous silicates, including the feldspars and clays.

A table giving the production of bauxite and aluminum through a seven year period by different countries shows that the United States leads in bauxite production with a total ranging from 200,000 tons up to 600,000 tons a year. This country also leads in the total production of aluminum with quantities varying from 29,000 tons in 1913 to over 80,000 in 1919. France is the next country to us in point of production, especially of bauxite. In the production of aluminum Switzerland, France and Austria are pretty close competitors, but neither of them produce more than a fifth of the quantity produced in the United States.

Bauxite is not used exclusively for making aluminums and aluminum salts. Other uses mentioned for this material are the manufacture of refractory brick, the manufacture of alumina for abrasive purposes, and it is used in the refining of oil.

### WAGES IN MINING AND TRANSPORTATION.

Among the dominant factor in the cost of living and in the price of many of the commodities delivered to consumers are mining and transportation. It is the wages paid miners which furnish the basic cost for coal and other minerals, and it is the wages and salaries paid employes of transportation systems which play an important part in the cost of travel and transportation. Today there is a pretty general feeling that the wage scales in coal mines and on railroads are out of proportion to the wages paid in most industries and considerably out of proportion with the wages paid for farm work and the returns for farm products. In short, there is a feeling that there should be a trimming down of wage scales both in mining and in transportation that the country as a whole may have some easement in the fuel cost which is a big factor in manufacturing and transportation cost, and some relief from the burden of freight rates which are in the main practically double prewar times.



## AMERICAN CERAMIC SOCIETY ELECTS ROSS C. PURDY FULL TIME SECRETARY WITH HEAD-QUARTERS AT COLUMBUS, OHIO.

FOR A YEAR or more the officials of the American Ceramic Society have contemplated the employment of an organization secretary, or as some put it, a full-time paid secretary to have charge of the technical and fraternal work of the society and its branches. His chief purpose will be to further promote the usefulness of the organization and to increase the membership by unremitting effort, thus adding to the revenue of the society that its work may be carried on in a most effective manner.

It is now announced that the trustees have decided to make the venture and have elected Ross C. Purdy to fill the office as organizing secretary. He will establish headquarters at the Ohio State University at Columbus, Ohio, where the society was born in 1899 and where for many



Ross C. Purdy, Columbus, O.,  
Organizing Secretary, A. C. S.

years it grew and prospered under the able leadership of Professor Edward Orton, Jr.

Under the new order of things the present general secretary, Prof. Charles F. Binns, will continue to serve in the same capacity as heretofore with offices at Alfred N. Y.

We congratulate the trustees of the society and the entire membership on the action taken for it bodes much good to the society. The selection of Ross C. Purdy is an exceptionally happy choice for he is one of the ablest and most enthusiastic boosters in the craft. His wide acquaintance in the clay industries will prove of great advantage in the work to be done, and the task is a real man's job.

In brief, his duties as organizing secretary will be to advise with and assist the officers of the society and its various divisions in planning and putting into effect the promotion work in prospect, and to supplement the work of the Committee on Membership together with such other activities as the society trustees may direct. It will be the duty of the organizing secretary to assist the committee on program to secure papers of merit and timely interest for the annual meetings. Particularly will he be expected to

establish co-operative researches conducted under the auspices of the various divisions of the society, whether same is supported by the trade associations, groups of manufacturers, or single corporations. The agreements for such research work to be subject to the approval of the Board of Trustees.

Further, it is the duty of the organizing secretary to foster and maintain friendly relations with the associations of manufacturers and allied organizations, and as opportunity offers to address them on the work of the society, and related topics, and to secure their co-operation in the several fields of endeavor.

### The Man and the Office.

Organizing Secretary Purdy brings to the task a ripe experience and fine talents that insures efficient service. A man of infinite energy, attractive personality and a real heart interest in the problems to be met and solved. For a quarter of a century he has devotedly labored for the betterment of the ceramic industry. Starting as a student in the School for Clayworkers in 1896 at the Ohio State University, Columbus, Ohio, he won the N. B. M. A. scholarship in a competitive examination and thereafter for several years was associated with Professor Orton making tests of clays and clay products, the results of which form an important part of the technical literature of the craft.

Subsequently he spent three years in factory work, returning to the Ohio State University in 1903 as assistant to Professor Orton. In 1905 he was called to the Ceramic Department of the Illinois State University at Urbana, and after two years of service there returned to Columbus to take the position of associate professor in the Ceramic Department of the O. S. U. He was made a full professor in 1908 and continued in that capacity until 1912, when he accepted a position as research director with the Norton Company, Worcester, Mass., with which company he is still associated in a consulting capacity. Now he returns to Columbus, his first love, and again makes the university his professional domicile. It is a very happy situation for all concerned, "Ross" and the A. C. S. are to be congratulated; that he will make good is a certainty. Nothing but an untimely intervention by the "Old Man with the Scythe" can stop Ross in any serious undertaking when he once starts and he is a self-starter. His initiative and persistence spell achievement.

### HOLLOW BUILDING TILE TESTS.

One of the confusing things in connection with testing and standardizing specifications for hollow building tile has to do with the absorption test and its relation to strength tests, in which is also mixed a freezing test. The confusion arises from the fact that there is no definite relation that has so far been established between raw material, absorption tests, strength tests, and freezing tests. There are also some additional fire tests being undertaken, and out of it all we should get soon some new light or a clearer light on the subject of tile specifications.

One of the things that has been developed is that freezing tests should be made from samples sawed from unbroken tile. The reason for this is that the soundness and strength of specimens may be affected by breaking, and the one way to guard against this is to saw specimens from an unbroken tile instead of taking broken pieces for specimens.

Hollow tile is attaining such wide and general use that a little more clarity as to specifications will be helpful both to architects and to tile manufacturers.

If we are to keep our shops open and working we will have to insist upon the open shop policy.



Written for THE CLAY-WORKER.

### AMONG PHILADELPHIA BRICK MEN.



UBLIC IMPROVEMENTS under construction will cost \$10,650,000 and private dwellings \$3,900,000. Work planned early this year was to have amounted to \$140,000,000, \$100,000,000 for public work and the remainder for private work.

There is a very large difference between the work planned and for which money had been raised and is now collected, and the work actually going on, and that difference may be almost entirely attributed to failure of employers and employes in the building trades to agree. The former announced reductions in wages May 1 and the latter have not accepted them. Refusal of workers to accept was predicted early last spring and the result was a stunting of a real widespread ambition to build. Others, uncertain whether to build this year or continue the popular waiting policy, concluded, when the strike came along, that it was no time to venture into such unpromising fields.

Universal suffering has followed this condition. The shortage of homes amounts to many thousands. Extensive alterations in the business districts are retarded. Men are out of work. Not only are the strikers idle, but many thousand unskilled laborers who would be employed if the necessary building was going on are likewise out of work.

Approval of the Delaware river bridge last month will make additional construction. Engineers have designed an enormous structure, which will cost \$29,000,000. This figure is not included in the \$140,000,000 estimate of work planned and financed.

Much of the municipal work requires quantities of clay products, but with all the demand is not sufficient to keep all the brickyards busy. Several are closed, as they have been all spring, and others are now talking of closing down. Some have sold out reserve supplies and are not making any more brick, because they say there is no money in the business. Tile manufacturers are in a similar position; they attribute the slowness of their industry, however, to the lack of home building.

Despite the uncertainty of the building situation, there is a long list of construction planned. Independence Hall is to undergo \$50,000 worth of alterations, and this work will go forward soon. Terrace retaining walls to cost nearly \$300,000 are planned for Fairmount Park. Three schools are planned, a score of garages and many stores and alterations to stores are planned.

Work for which contracts have been awarded includes all varieties of buildings. A church to cost \$44,000 will soon be started and a brick and stone office building in the downtown section, to cost \$40,000, has been contracted for. Another office building finished with terra cotta will be started this month. The cost will be \$28,000. J. B. Kelly has been awarded the contract for an \$18,456 incinerating plant of brick and iron; Charles J. Colgan, the contract for brick stores and dwellings to cost \$16,000; Frank & Kaiser, the contract for a brick storehouse to cost \$14,500; Charles H. Davis & Son, the contract for a brick apartment house to cost \$13,000, and Charles M. Sinn, the contract for three brick residences to cost \$15,000.

Construction plans in Pennsylvania outside of this city are much more elaborate. Building is cheaper and labor conditions in most cities more favorable. Builders, moreover, seem less inclined to await absolute liquidation. A three-story brick memorial science building is planned for Bethlehem and a three-story convent of brick and hollow tile is planned by

St. Mary's Church at Coaldale, Pa. Seven high schools have been planned this month, most of them of brick.

An extensive program of hotel building in Atlantic City was completed last month with the finishing of the Ritz-Carlton. There will be additions to several hotels, but no new ones this year. Plans are being made for a \$100,000 two-story hospital to be started there this fall.

Road work of vitrified brick has been extensively planned. Some of the contracts are for following amounts: \$466,610, \$466,877, \$142,415, \$164,381, \$250,763 and \$41,905.

The contract for an \$80,000 high school of brick and terra cotta has been let by Hatfield, Pa. Northampton, Pa., has let a contract for a three-story hospital of brick, to cost \$65,000. Harrisburg will have a new bank of stone and brick. Contracts awarded in New Jersey include a one-story garage of brick, 103x99, in Trenton; a brick and concrete warehouse, 100x110, in Atlantic City, and two brick residences in Trenton, to cost \$5,000 and \$8,000.

Philadelphia architects are working on some big jobs for which it is expected contracts will be let this fall. The Balingier Company is planning a \$1,000,000 silk mill for Roanoke, Va., and Paul A. Davis is planning a \$400,000 chemical laboratory and a \$300,000 gymnasium for Morgantown, W. Va.

Brick prices average \$7 per thousand less than the level existing for building brick a year ago, and labor cost has been reduced 25 per cent. Fancy brick sales are said to be better than for common brick.

Pottery has been purchased this year by both private buyers and hotels and institutions in conservative orders. Dealers characterize sales as odd-lot sales and mainly for the replenishment of broken sets. Chinaware is being imported in larger lots continually. An importer says that although the china and glassware industry of that part of Austria now included in the domain of Czecho-Slovakia has not recovered from the ill effects of the war, the decorative china industry is coming back strong.

Odd pieces, selling at very low prices at a good profit, are the only kind that sells well. The rate of exchange is so favorable that this class of goods can be put on bargain counters next to American-made goods so much cheaper that the public buys and stocks up, believing it is getting "distressed stock." Salesmen on the road report sales of these odd pieces as improving steadily and good business is anticipated by importers this fall.

THE QUAKER.

### NEW BROWN OFFICE IN CLEVELAND.

The Brown Instrument Company, of Philadelphia, Pa., manufacturers of instruments for indicating and recording temperatures, pressures, speeds, operations and drafts, has opened a branch office in Cleveland, 201 Reliance Bank Building, 1634 Euclid avenue, to render their customers in the Cleveland district service in every way possible.

This now makes a total of eleven district offices, located in New York, Pittsburgh, Detroit, Cleveland, Chicago, St. Louis, Denver, Los Angeles, San Francisco and Montreal, and engineers from any one of these offices will gladly call at your plant to recommend the most suitable equipment for your particular needs.

The journalistic sentiment of the country which was recently playing around with ideas of industrial democracy and plant management through committee conferences seems to have lately awakened to the fact that this idea is leading them to confusion. Today there is evidence of a realization that business management calls for a superior order of brains of a particular class, and that this talent is one of the most valuable factors in industrial development.



## WITH NEW JERSEY CLAYWORKERS

Well Attended Midsummer Meeting of the State Association in Conjunction With the Eastern Section of the American Ceramic Society.

ALTOGETHER there were about eighty members and guests in attendance at the midsummer meeting of the New Jersey Clayworkers' Association held at the Trenton Country Club, Friday, June 17. The opening address by Chairman Abel Hansen, was devoted chiefly to a report of the activities of the association during the past year and also set forth the plans for the future work of the association. The report of the Executive Committee was presented by Mr. Charles Howell Cook, and indicated plainly the gratifying activity and interest in the various branches of the industry.

An unusual offering was an address by Mr. William Burgess, U. S. Potters' Association. He recently made a trip abroad and told in an entertaining way the interesting experiences and observations which the trip afforded. Mr. Burgess also touched upon the importance of the tariff question and at the close of his address that all important subject was discussed at length, it being agreed that a protective tariff was essential to the prosperity of the ceramic industries.

Daniel P. Forst, Robertson Art Tile Co., Trenton, N. J.  
Oscar E. Mathiasen, New Jersey Terra Cotta Co., Perth Amboy, N. J.  
H. W. Bloomfield, Metuchen, N. J.  
Paul G. Duryea, Cook Pottery Co., Trenton, N. J.  
Charles H. Lovett, Cook Pottery Co., Trenton, N. J.  
W. C. Billman, Mfrs. Ass'n of New Jersey, Trenton, N. J.  
Alfred Mathiasen, Matawan Tile Co., Matawan, N. J.  
John P. Goheen, Brown Instrument Co., Philadelphia, Pa.  
L. Morton Morley, Brown Instrument Co., Philadelphia, Pa.  
R. H. Minton, General Ceramics Co., Metuchen, N. J.  
D. H. Applegate, Jr., Proctor & Schwartz, Inc., Philadelphia, Pa.  
Edward C. Stover, Trenton Potteries Co., Trenton, N. J.  
S. O. Conkling, Conkling-Armstrong Terra Cotta Co., Philadelphia, Pa.  
E. C. Hill, Conkling-Armstrong Terra Cotta Co., Philadelphia, Pa.  
J. V. Brockway, H. W. Johns-Manville Co., Manville, N. J.  
W. M. DeWitt, H. W. Johns-Manville Co., Manville, N. J.  
R. Hazlehurst, Old Bridge Enameled Brick & Tile Co., Old Bridge, N. J.  
H. J. Knollman, Abrasive Company, Philadelphia, Pa.  
H. J. Kahn, New York, N. Y.  
H. P. Humphrey, Washington Porcelain Co., Washington, N. J.  
August Staudt, Perth Amboy Tile Wks., Perth Amboy, N. J.  
Walter A. Hull, Bureau of Standards, Washington, D. C.  
William Chell, Empire China Wks., Brooklyn, N. Y.  
M. W. Twitchell, Ass't Geologist, Trenton, N. J.  
L. R. W. Allison, Newark, N. J.  
A. D. Forst, Jr., Robertson Art Tile Co., Trenton, N. J.  
Stephen E. Meagher, Trenton, N. J.  
F. S. Thompson, Millington Clay Pdts. Corp., Millington, N. J.  
L. E. Riddle, Jr., Edgar Bros. Co., Metuchen, N. J.  
John M. Kreger, Woodbridge Ceramic Co., Woodbridge, N. J.  
Peter P. Schendorf, Woodbridge Ceramic Co., Woodbridge, N. J.



Group Picture of the Ceramists in Attendance at the Recent Meeting of the New Jersey Clayworkers' Association,

"Hollow Building Tile" was the subject of an able address by Walter A. Hull, of the Bureau of Standards, Washington, D. C. Mr. Hull showed a number of interesting sketches and charts, all of which we presume will be published in pamphlet form in due time that those who desire may add the treatise to their library.

As usual the chief social feature of the meeting was the noon day luncheon served at the club, after which the members strolled about the beautiful grounds, enjoyed their cigars and personal chats until time for the afternoon session. The opening paper was on "Factory Preparation and Burning of White Ware Bodies," by Professor Arthur S. Watts, Ohio State University, Columbus, Ohio. It was a most interesting and instructive paper and afforded some timely tips for the ceramists in attendance. An interesting discussion followed dealing chiefly with kilns and kiln firing.

The meeting adjourned that those in attendance might make a trip of inspection through the new Mutual Potteries and the Lennox, Inc., Pottery, both up-to-date plants of much interest. A detailed description of the former will be found on page 27 of this issue.

Those in attendance:

Abel Hansen, Fords Porcelain Wks., Perth Amboy, N. J.  
Charles A. Bloomfield, Metuchen, N. J.  
Charles Howell Cook, Trenton, N. J.  
Charles W. Crane, Crossman, Co., South Amboy, N. J.  
G. H. Brown, Rutgers College, New Brunswick, N. J.  
Fred A. Whitaker, General Ceramics Co., Keasbey, N. J.

Marcus S. Wright, South River, N. J.  
William S. Wright, South River, N. J.  
C. C. Hawke, Perth Amboy, N. J.  
Mrs. C. C. Hawke, Perth Amboy, N. J.  
Mrs. M. Hawke, Manchester, England.  
Leslie Brown, Lenox, Inc., Trenton, N. J.  
W. L. Meek, Perth Amboy, N. J.  
C. F. Geiger, Carborundum Co., Perth Amboy, N. J.  
Chas. E. Bates, National Fire Proofing Co., Perth Amboy, N. J.  
M. M. McHose, Perth Amboy, N. J.  
M. Meikle, Perth Amboy, N. J.  
K. E. Ward, Newark, N. J.  
C. T. Dunham, Independent Brick Co., Trenton, N. J.  
Andrew Foltz, Lambertville Pottery, Lambertville, N. J.  
Phil J. Faherty, Lambertville Pottery Co., Lambertville, N. J.  
W. J. J. Bowman, Trenton Fire Clay & Porcelain Co., Trenton, N. J.  
O. O. Bowman, 2d, Trenton Fire Clay & Porcelain Co., Trenton, N. J.  
J. E. McAllister, Trenton Fire Clay & Porcelain Co., Trenton, N. J.  
Frank D. Holmes, Thos. Maddock's Sons Co., Trenton, N. J.  
J. F. Morton, Trenton, N. J.  
Chas. T. H. Phillips, Sneyd Enameled Brick Co., Trenton, N. J.  
Frank W. Morris, Morris China Co., Trenton, N. J.  
A. D. Forst, Robertson Art Tile Co., Trenton, N. J.  
John B. Maddock, John Maddock & Sons, Trenton, N. J.  
Dryden Kuser, Lenox, Inc., Trenton, N. J.  
John L. Kuser, Lenox, Inc., Trenton, N. J.  
Richard J. S. Barlow, Roessler & Hasslacher Chemical Co., Trenton, N. J.  
George Simcoe, Electrical Porcelain & Mfg. Co., Trenton, N. J.  
Leonard S. Briggs, Lenox, Inc., Trenton, N. J.  
Joseph Boughey, Hanovia Chemical & Mfg. Co., Newark, N. J.  
Francis H. Burroughs, Star Porcelain Co., Trenton, N. J.  
J. G. Bragg, Dept. Conservation & Development, Trenton, N. J.  
R. E. Gage, Dept. Conservation & Development, Trenton, N. J.  
M. G. Hartman, Ass't Sec'y N. J. Clay Workers' Ass'n, New Brunswick, N. J.  
L. E. Marker, Matawan, N. J.  
Louis Pohle, Trenton, N. J.  
Arthur S. Watts, Ohio State University, Columbus, Ohio.  
Mrs. Arthur S. Watts, Columbus, Ohio.



## WOODWORK AND HOUSE PLANS

IT MAY SEEM STRANGE to some at first thought, but it is a fact nevertheless that there is an interesting relationship between the progress of brick in building operations and the designing of house plans with regard to the woodwork involved. And it is time for the clayworking industry to try and get up a little closer to the woodworking industry and have a better understanding to the end that both may profit better. The clayworking industry especially needs to get some ideas about plans and what is doing in the way of standardization in the woodworking industry, and what relation this has to the work of planning and the encouraging of building operations through the use of ready made plans.

what the Curtis Companies have done. The Curtis Companies referred to in this instance are manufacturers of sash, doors and millwork, and they have adopted the general term of woodwork for their product in the place of the usual sash, doors and millwork. It is this kind of woodwork particularly in mind now as having a closer relationship with the progress of brick in home building. Brick homes as well as other homes usually contain quite a lot of woodwork and plans for these homes must be drawn with a knowledge of the dimensions and other features of the woodwork involved.

The story in *Printers' Ink* is one of how an important concern in the woodworking industry has set about to bring order out of the chaos of a multitude of sizes and patterns of sash and doors, molding and so on and has incidentally



Type "B" Erie Shovel on Caterpillar Mounting, Climbing Grade of 15 to 20 Per Cent Through Soft Plowed Material.

In the past the clayworking industry has been inclined to find fault with and fight shy of lumber and lumber construction, and it took unnecessary years for realization to reach across the barrier of antagonism and impress the brick men with the fact that the lumber people had a good idea in the matter of ready made plans to encourage home building. Now that the clayworking industry has taken up the house planning idea, if it will walk up a little closer to the woodworking industry and make inquiries in a proper friendly spirit it will find that there are good ideas and new ideas to be had and that the woodworking industry is making wonderful progress in the matter of hitching up the ideas of standardization with those of diversity to get economy of construction along with the beauty of variety.

There is a reminder of this in a story in *Printers' Ink* about

worked out an idea by which 226 houses were designed around 58 floor plans in four architectural expressions to suit the north, east, the south and west.

The first thought for the brick man to get straight in his mind is that of getting 226 different houses out of 58 floor plans. Already we have evidence that those designing plan books for the clayworking industry have recognized the advantages of hitching up standardization with variety, that is, of taking a given floor plan, standardizing it and then seeking to get variety in outward appearances in connection with it. Here the woodworking people seem to have carried the idea even further than the brick people have progressed with it so far. That is not all either. They have taken this same idea into the work of standardizing window and door sizes and patterns so as to get standardi-



zation for the sake of economy and yet furnish opportunities for variety in architecture and general effect.

Think of the problem involved when a checkup showed 193 sizes of windows, 31 sizes in doors and over 200 patterns in molding. Careful checkup of sales, however, showed that 90 per cent of the windows were all involved in 47 sizes out of the 193 and this gave a clew to the line of effort. The effort was directed toward eliminating seldom used patterns and sizes and toward the standardizing of a few sizes and patterns and then the designing of plans in which these could be utilized in a great variety of ways and yet furnish the economy of standardization and quantity production.

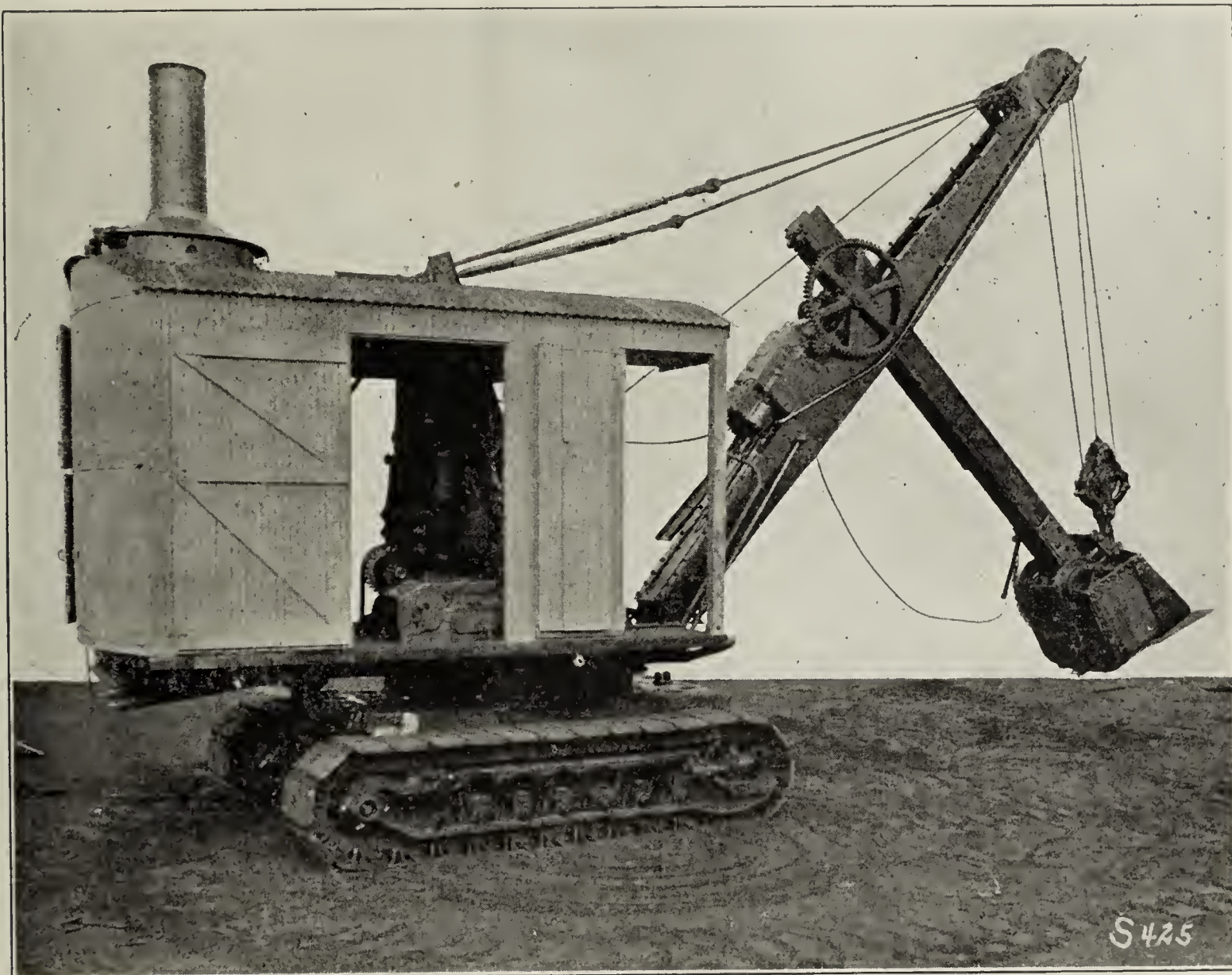
The details of this effort and result was found covering about four pages in *Printers' Ink* and this four page review is one that should be carefully read by every man concerned

poses, but the woodworking industry has been leading in the matter of ideas for house designs and for standardization, and the brick fraternity can certainly benefit from getting in closer touch and finding out more about it.

## ERIE SHOVEL'S CATERPILLAR-TYPE MOUNTING IS COMPLETELY LUBRICATED

Reduction in Friction Greatly Increases Durability and Gives More Power and Speed.

FOR SEVERAL YEARS revolving steam shovels have been used on mountings of the caterpillar type, to provide maximum bearing surface over soft ground. This type of tread has a decided advantage for certain classes of



Type "B" Erie Shovel on Caterpillar Mounting Making a Complete Circle, 20 ft. 4 in. in Diameter.

with getting out plan books and similar literature to promote home building and the use of brick and hollow tile for this purpose.

And that is not all of it. It is an impressive reminder that the clayworking industry should seek to get in closer touch with the woodworking industry, because in the future they must work harmoniously together if each would make the progress it should. Much of the lumber of the future instead of being used for walls in homes will be used for doors, windows, floors, interior trim and panelling, while the walls will be of brick and hollow tile. Naturally to get the best results then there should be a harmonious working together of both interests that they may serve the needs of the country best. For this getting together the clayworking fraternity seems to have the best material for wall pur-

excavation, especially for road grading, where there are frequent move-ups over a soft floor.

Erie shovels and cranes are now being built with caterpillar-type mounting that is fully lubricated, an improvement which is giving owners far greater durability than they have had with any other mounting of this type. The Ball Engine Company, of Erie, Pa., builders of the Erie shovel, have recently placed this mounting upon the market after three years of experiment and careful test.

The durability of the new mounting is perhaps its most important feature. After a run of 100 miles, a caterpillar-type Erie travels just as smoothly as when new, whereas unlubricated mountings have often been known to wear out after moving less than forty miles.

On the new Erie mounting every bearing is fully protected



against undue wear by a film of special heavy oil, a lubricant which works equally well in hot weather or below zero. The link bearings are not allowed to run dry and "cut," but are protected like other important bearings on the Erie shovel. The Ball Engine Company states that most of the trouble with various caterpillar type mountings for steam shovels has been directly due to lack of lubrication.

Not only greater endurance, but far more traveling speed and climbing power result from the reduction of friction in the new Erie mounting. A caterpillar-type Erie travels at a speed of more than a mile an hour on high gear—five to ten times as fast as unlubricated machines. And the Erie climbs grades up to 25 per cent. on its own power. The surprising power, both for fast traveling and steep climbing, is due to the small loss of power by friction.

## MINING FLINT CLAY

THE UNDERGROUND mining of siliceous fire clay is practiced much as is coal mining, by use of the pillar and room method. The entry being established, the rooms should be only as wide as the nature of the roof will stand. The pillars should be of a width in keeping with the weight they must bear.

Flint clays occur in a variety of ways. They may overlies softer clay or may be covered with more or less coal. When the height of the coal is sufficient to make the operation pay, it should be mined off first. If not, care should be taken that the coal does not become mixed with the clay. When the coal is mined off for some distance, the clay can be lifted



Type "B" Erie Shovel on Caterpillar Mounting Travels and Works With Perfect Satisfaction in Any Material.

The lubrication of the Erie caterpillar-type mounting is easily taken care of. One filling of the oil reservoirs provides for at least a month's steady service. Once a month the operator spends about an hour in going all over the mounting with a squirt gun.

Another very important feature of the Erie's continuous-tread mounting is the perfect steering, controlled entirely by the operator from his regular position in the cab. The operator can turn sharply either to right or left, or, when desired, can turn right about in one spot.

The Erie caterpillar-type mounting is easily interchangeable with ordinary traction wheels or standard gage car wheels, on the same truck frame. The result is that any Erie on traction wheels can easily be changed over to caterpillar-type, and then later changed to car wheels if desired, without any alteration to the truck frame.

by slab shots loaded in deep and nearly flat holes. This method has the additional advantages of getting the coal and waste out of the way before the clay is distributed and reduces the danger of mixing objectionable matter with the clay.

When the soft clay is of sufficient height, and the coal not of a quality to mine, the soft material should first be mined out. When this is done, the hard clay is shot down by means of flat holes. For "breaking-in" or "out" shots in opening up a header or breast, various methods are employed. The best advantage should always be taken of all slips or faults. Many prefer a single breaking-in shot, while some, especially where the clay is hard to break, prefer to load two holes pointing together instead of the single shot at 1, as illustrated in the sketch. For some clays decided variations from these methods are required to suit the peculiarity of the ground.



The rib and slab shots are usually drilled to the full depth of the "out" or "break-in" and carry a burden of about three to four feet.

The parting at top and bottom is usually so good that lifters and back shots are required.

The shooting of flint clay requires much care, as it is likely to be broken so fine that the loss as waste reduces the output of the mine.

Formerly all flint clay was mined with blasting powder, but this is being replaced by forty per cent ammonia dynamite. The use of electric blasting caps is strongly recommended as they decrease danger; if the shot fails, there is no hang-fire, and the miner can return to the working face to locate the trouble. Failing to find the trouble, he can proceed to bore another hole about one foot from the mis-shot, while a mis-shot with fuse may mean losing the day's work, because it is not safe to return on account of hang-fires.

For a reduction of the trouble from fumes, it is recommended that an explosive especially prepared for hard underground work of this character be used, as this breaks down the ground in better lump condition than do quicker-acting explosives.

Those interested and desiring further particulars are invited to address the E. I. DuPont DeNemours & Co., Wilmington, Del.

#### FOREST CONSERVATION.

WHAT business interest," you may ask, "has the clay-worker in forest conservation?" The answer is that he has or should have a very keen interest as a citizen desiring to safeguard the future welfare of the people of this country, but he has a main direct business interest in that a wider use of brick and hollow tile for building purposes will help in conserving our forest as well as enlarging the demand for these articles.

There is a reminder of this which comes in the form of some resolutions passed by the Southern Pine Association, one of the most prominent organizations among sawmills, catering to the lumber yard trade and furnishing material for building operations. Among the resolutions passed as desirable of accomplishment is the following: "Third, increase utilization of forest material by improved methods of manufacture and building construction."

There is more than a hint in this reference to building construction. Improved methods in building construction if promulgated with forest conservation in view will lead directly to the replacement of framed walls with walls built of brick and hollow building tile, and also to hollow tile floors and partition walls.

It is time for the clayworking industry to take a keener and more active interest in the subject of forest conservation through better building, through building with fire-proof material which will replace and therefore conserve millions of feet of good lumber going into this work, which will in the future be more seriously needed for other purposes and will serve those other purposes better.

True, activity on the part of the clayworkers will beget the claim of selfish interest. This selfish interest should be frankly admitted, and then urged on the ground that while a greater use of brick and hollow building tile means bigger business for the clayworking industry, it also means at the same time a conservation of our forests for the good of future generations. Also it means better buildings, that will last longer, give better service, and better protection against fire, and will therefore prove beneficial to the builders as well as to the clayworking industry.

A plain and frank stand on this program and a little more aggressive interest on the part of the clayworkers in

forestry matters should result in good for humanity as well as for the clayworking industry.

#### A FOUR-SERIES PLAN BOOK.

THE SERVICE DEPARTMENT of the American Face Brick Association, 110 S. Dearborn street, Chicago, is turning out a plan book in a series of four sections each devoted to certain sizes and types of house plans. The first covers 3 to 4 rooms, second, 5 room houses, third, 6 rooms, and fourth 7 to 8 rooms. Series one and two have already appeared and they not only show excellent architectural design, but they also bear evidence of thoughtfulness in get up. For example, in each folder every two houses on opposite pages constitute a pair in which the floor plans are reversed and the exterior designs drawn to fit either plan. Thus in any pair of houses shown there are four choices. Also there are three wall sections given for each house showing wall construction of solid brick, face brick on hollow tile, and face brick veneer on frame. The prices asked for the plans are from \$15.00 to \$18.00, which include drawings, specifications and estimates of material required for the brick work of the different types of wall. Each of the series is being offered in printed form for 25 cents each and they should find wide favor among brick manufacturers and dealers throughout the country because they help in promoting home building with brick.

#### BRITISH ECONOMY.

While the great coal strike which recently came to an end in England naturally had some effect on pottery work it does not seem to have interfered seriously with taking care of the export trade in pottery. This is perhaps due to the fact that some stocks were accumulated ahead. Anyway recent consular reports indicate that the export trade in pottery in England has held up very well during the strike period.

There is given a recent consular report and tabulation of exports for the first four months of the current year which show a total value of \$2,787,591. The largest item in this is jett, rockingham, glazed terra cotta, and other glazed earthenware, while the next item of importance is sanitary ware, followed by stoneware, tile and porcelain and chinaware in the order named, with the electrical and chemical ware one of the smaller items.

There was more of this ware exported to the United States than any other single country, but at that our purchase constituted only about a fifth of the total, the other three-fifths going to about a dozen different countries, important among them being Australia, Africa and South American countries, and Canada, of course, which occupies next place in importance to the United States.

The indications are that with the coal strike settled and a need for employment in England there will be efforts to enlarge and extend the pottery trade, and we will probably feel the effect of it in competition with trade in the Latin American countries as well as by direct exports to this country.

#### DEMAND FOR FACE BRICK IMPROVING.

School building construction throughout Wisconsin is going ahead at a good rate. Practically every school building is a brick structure and this type of building has created a large demand for clay products. At Sheboygan the new high school unit will be constructed of Shaletex Rugs, Nos. 705-8-19, brick manufactured by the Streator Brick Company. Ricketson & Schwarz, Milwaukee dealers, report a large number of contracts for face brick throughout Wisconsin. One of these contracts is for the large additional building for Marquette University in Milwaukee.





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

#### Brick Machinery Wanted for Mexico.

Editor The Clay-Worker:

I would like to receive some catalogues of brickmaking machinery. I am interested in the manufacture of brick and desire to purchase some modern press brick machinery. Will thank you to put me in touch with desirable companies manufacturing same.

Very truly yours,  
2A Ramon Guzman, No. 103. RICARDO RUIZ.  
Mexico, D. F., Mexico.

#### Vice-President Burton in England.

Editor The Clay-Worker:

The building situation in our community is just about as bad as it could be expected to get. Common brick are selling around \$12.00 to \$13.00, but the trouble seems to be that the bricklayers are not willing to reduce their wages. We hope things will become settled by next year and that everything will begin to move off favorably.

We have not heard much from our Mr. Burton since he left for the trip to England with the Rotarians, other than that he is having a splendid trip. We do not expect him back home until about the first of October.

Yours very truly,  
Zanesville, Ohio. THE BURTON-TOWNSEND CO.

#### Building Quiet at Portland.

Editor The Clay-Worker:

The set of advertisements which appeared in the May issue of The Clay-Worker just received. Many thanks for same. We will order the electrotypes now very soon.

We are not manufacturers of brick, but building material merchants, which accounts for our interest in advertising to stimulate an interest in brick as a building material.

At the present time the building situation here in Portland is rather uncertain. A large number of small residences are going up, very few of the better class, and no commercial building whatever, and we do not expect any before 1922. Just now there is quite a little state work being figured on, bids for which will close before long. Building brick are selling at \$18 per thousand at the yard, cartage extra depending on the haul.

With best wishes, we are,  
Very truly,  
Portland, Ore. P. L. CHERRY CO.

#### Freight Rates a Bad Handicap.

Dear Friend Randall:

Glad to have your letter of recent date. Things are rather slow with us here at Evansville this season. Our First avenue plant has been shut down since last November, but we expect to start sometime this month. This is the first time we have not operated the plant at full capacity during the twenty-six years it has been established. Our shale plant has been operating between 50 per cent to 60 per

cent capacity and we expect to increase this to nearly 100 per cent within the next month.

Business is looking up a little, but prices are very low; common brick (hard) selling at \$11 f. o. b. plant. Freight rates on both brick and coal are handicapping our business considerably and coal prices have not come down in the same proportion as brick. I trust these three items, freight rates, coal and wages, will be on a more equitable basis by next spring so that building will go ahead without hindrance.

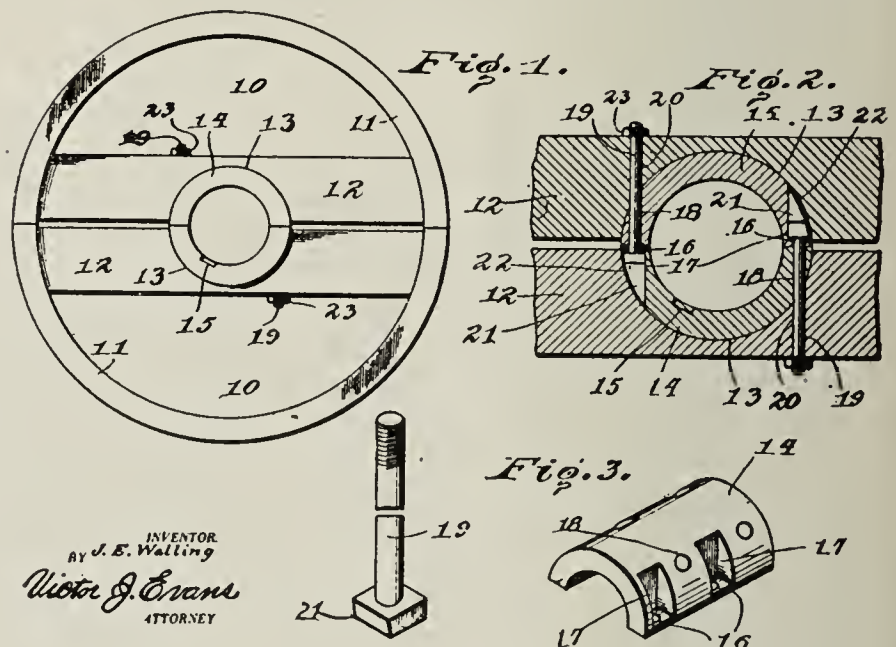
The next time I have an opportunity to come to Indianapolis will surely call at your office for a nice little chat with you, which I always enjoy. With kindest regards, I am,

Yours very truly,  
Evansville, Ind. H. C. KLEYMEYER,  
Genl. Mgr. Standard Brick Co.

#### A Remedy for Pulley Troubles.

Editor The Clay-Worker:

I have been in the game for the past forty-one years and have had my pulley trouble along with others. so I got my head to work and made a simple bush that has done away with worry. This bush is doing duty on a 3 7/16 shaft, in a pulley 46 in. diam., 12 in. face, driving a heavy



duty brick machine, and pleased to say, no more trouble there.

This will save your readers a lot of trouble if you will show this cut in your Clay-Worker.

Yours respectfully,  
Oregon. J. E. WALLING.

#### Delivering 50,000 Brick Per Day by Truck.

Dear Randall:

I am sending you this check for balance of my N. B. M. A. dues, and also the names of three good brick men here on Long Island who will make good members. You write them and I am sure you will get their checks. If you don't, I will go get them for you.

The brick plant has had me on the jump since early spring. By the first of June we had burned five kilns, and four of them were all gone. We had two kilns when we started in. Burned a kiln this week and it will be all gone before we can get the next one burned and cooled. We send them all out by auto trucks, some trips over 25 miles. Have not shipped two cars of brick by freight. We can put the brick on the job by auto truck for what it costs us to load them in the freight cars, pay the high freight rates and take them off the cars at the job, and the delivery is far



more prompt. Some days we send out by truck between 50,000 and 60,000 brick.

Yours truly,  
East Williston, Long Island.

JOTHAM POST.

**Brick by Parcel Post—A Novel Suggestion That Acted Upon Will Be a Good Advertisement for Building Brick.**

Editor The Clay-Worker:

It came to my knowledge recently that the hustling president of the N. B. M. A., W. E. Dunwody, Macon, Ga., is having plans drawn for a residence in a fashionable suburb of that city. The thought occurs to me that it affords an opportunity for the common and face brick men of the country to get some advertising of an unusual sort, and at the same time pay a deserved compliment to President Dunwody, enabling him to build into his home perpetual souvenirs, as it were, from his many personal friends in the trade throughout the country.

If each member of the N. B. M. A., and the C. B. M. A., too, will send him a sample brick by parcel post, no matter what the color or texture of the brick, they can be used in the building in a manner that will add to its appearance and be a constant reminder to Mr. Dunwody and his family of the friendship and kindly consideration of the men in the brick craft. It would certainly be a source of gratification to him to say that his home contained brick from every state in the Union, north and south, east and west.

Aside from the personal element in the affair, the brick manufacturers can get a little desirable publicity by bringing the matter to the attention of their local newspapers. The incident will be so unusual that it will be worthy of mention and if it happens to tickle the fancy of the local scribe, as it probably will, an interesting story will result. Isn't it worth trying? If you think so, Mr. Brickmaker, send a specimen brick bearing the firm name and address of the sender, so Mr. Dunwody will know from whence it comes. I will wager Mr. Dunwody will get some effective publicity worth while out of it in addition to the personal satisfaction of being remembered in that way, even though it does cost him more to assemble the brick than it would to haul them from his own plant.

A CRACKER BRICK MAN.

#### J. C. STEELE DIES AT THE AGE OF EIGHTY-TWO.

AFTER A LONG and useful career, J. C. Steele died at his home in Statesville, N. C., July 13. He was born in the vicinity of Statesville, July 10, 1839. At the close of the War of the Rebellion, in which he served as a Confederate soldier from the beginning to the ending of the conflict, he returned to the farm, and afterward engaged in the sawmill business. In 1882 he bought a brick plant near Statesville. Later on he started a little foundry and machine shop in the town and from this small beginning has grown the extensive brick machinery business which is conducted under the firm name of the J. C. Steele & Sons Company. In 1893 Mr. Steele was elected mayor of Statesville, and for many years was one of the leading figures in the social and industrial life of that community. He is survived by one daughter and four sons, C. M., H. O., A. P., and F. F. Steele, all of whom reside in Statesville, and are associated together in the business established by the father.

#### DRY AND WET PANS.

Two separate catalogs, one on grinding pans and the other on wet pans, have been received from the Toronto Foundry and Machine Co., Toronto, Ohio. Illustrations and specifications of the various pans and parts, including clay elevators and elevator boots, appear in both catalogs. The Toronto Foundry and Machine Co. has a high reputation for simplicity

of design and substantial construction in their clay working machinery.

## OBITUARY.

#### DEATH OF SIMON BERNARD CHAMBERS.

THE GRIM MESSENGER summoned Simon Bernard Chambers unexpectedly while he was walking in the vicinity of the factory of the Chambers Brothers Company, July 11. He was stricken with heart disease and his death was as unexpected as it was sudden. He was not in robust health, but there was no warning of the fatal messenger.

Mr. Chambers was sixty-five years old and had been a member of the firm of Chambers Brothers Company, founded by his father, for many years, serving as treasurer, his cousin, J. Howard Chambers, being president. Together they had



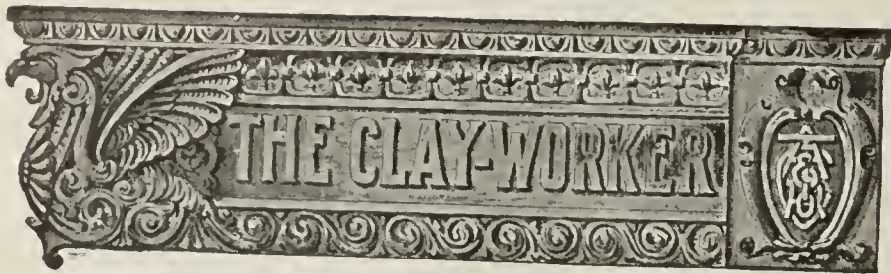
The Late S. Bernard Chambers, Philadelphia.

directed the company's affairs for more than a quarter of a century. Bernard, as he was affectionately called by his intimate friends, was of a genial, kindly disposition that won and held the affections of all who knew him. He was known locally as a chess expert and was a member of the Franklin Chess Club, the Union League of Philadelphia and the Society of Friends. He leaves a widow and two sons, Edwin Chambers of Tacoma, Wash., and Paul R. Chambers of Beechwood, Del. The latter is a member of the firm of Chambers Brothers Company.

#### DEATH SUMMONS GEORGE H. TEFFT.

George H. Tefft, for a number of years secretary and manager of the Eastern Clay Products Association, with headquarters at Pittsburgh, Pa., died quite suddenly at his home in Chicago early this month. Mr. Tefft had been in his usual health and the news of his demise will be in the nature of a shock to his many friends and acquaintances throughout the country. Previous to entering associational work he was associated with the W. S. Dickey Clay Mfg. Co., of Kansas City, having charge of their promotion work.





Entered at the Indianapolis postoffice as second-class matter.

A Practical Illustrated Monthly Magazine, devoted to Brickmaking and allied Clayworking Arts and Industries.

Title registered, contents copyrighted.

THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

#### TERMS OF SUBSCRIPTION:

|                                             |         |
|---------------------------------------------|---------|
| One copy, one year (in advance)             | \$ 2.00 |
| One copy, one year (if not paid in advance) | 2.50    |
| Six copies, " " " " " "                     | 10.00   |
| Ten copies, " " " " " "                     | 15.00   |

Foreign subscriptions 65 cents additional.

Subscribers when ordering a change of address should give both the old and new address.

#### ADVERTISING RATES

Furnished on application. The CLAY-WORKER is unquestionably the most effective medium in its field, and character and circulation considered it is the cheapest. To insure insertion in current issue, advertising matter should be sent to office of publication on, or before the first of the month.

Correspondence on all subjects of interest to Clayworkers solicited. All communications should be addressed to  
211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 76.

July, 1921.

No. 1

#### CURRENT COMMENT.

Kiln fires should now be burning brightly.

\* \* \*

Old Sol is helping hold up the temperature record in both driers and kilns.

\* \* \*

Figuring out your cost is easy enough, the great problem is to figure out a way to reduce cost.

\* \* \*

If the signs read right there will be more brick used the latter half of 1921 than were called for in the first half.

\* \* \*

Exempting new homes from taxes may encourage more building, but it doesn't help much in solving the tax problem as a whole.

\* \* \*

Road engineers are busy seeking an answer to the question, "What is an ideal road?" Our bet is that they will find not one but several answers.

\* \* \*

Another good sign of the times is in the statement that the 1920 assets of 8,622 building and loan associations is the biggest on record showing a total of \$2,519,914,971.

\* \* \*

The high cost of fuel for brick burning and the high cost of bricklaying are the things which are piling up the cost of brick building. There ought to be room to trim down a little in both.

\* \* \*

Investigations in New York show that surplus money in insurance companies loaned on small realty mortgages is safer and yields better returns than any other form of investment. This speaks well for the future of building as it

argues for the turning of more surplus insurance funds toward financing home building.

\* \* \*

There is good news in that Federal Board report that savings deposits have increased considerably of late.

\* \* \*

The south country seems to have led the northern country in building progress during the first half of the year.

\* \* \*

It is better to be prepared with plenty of brick in the fall than to bewail when the demand comes and finds you short.

\* \* \*

This is a time when a whole lot of people are asking the question, what is a college diploma worth? And the answer is never an easy one.

\* \* \*

Since wages represents 75 to 85 per cent of production cost it is easy to see that the big question of the day is that of wages and where and how to stabilize them.

\* \* \*

In pushing the idea of brick let us not overlook the fact that good paving brick not only makes the most durable surface for streets and alleys, but the same goes for good roads.

\* \* \*

We have long had a feeling that there is no such thing as peaceful picketing, and now that we have had an appellate court ruling to this effect there need be no further argument on the question.

\* \* \*

News reports tell us that Kentucky is to have an expert survey of its clay resources made by Professor Ries, head of the Department of Geology at Cornell, at the request of Willard Jillson, state geologist of Kentucky.

\* \* \*

Perhaps there is too much emphasis being put on the problem of our export trade relations, but there is no question that an adjustment of our international financial obligations will help to put both money and business in better conditions.

\* \* \*

We are told that the insurance companies now pay for fire losses at the rate of \$250,000,000 a year. But it is really the people who pay this, together with the costs and profits of insurance organizations, to say nothing of the cost of fire departments, etc.

#### SEWER BRICK.

There has been during the year quite an awakening on the subject of sewer brick, partly because of active efforts to develop standard specifications for this type of brick. Very good progress it seems is being made in this work by Committee C-3 of the American Society for Testing Materials and out of it all we should not only develop a wider use of brick in sewer construction, but also a better understanding of the requirements on the part of brick manufacturers which will prove beneficial all around.

#### DRAIN TILE AND ROAD BUILDING.

One of the things that Committee C-6 on drain tile of the American Society for Testing Materials has discovered in its work during the past year is an interesting development in the use of standard specifications for the testing and inspection of drain tile for highway improvement. We may draw two important inferences from this. One is that highway engineers are recognizing that drain tile now plays an important part in the construction of good roads, and the other



is that the efforts to standardize tests and specifications are a great help both to tile manufacturers and to highway engineers.

It seems that tile used for highways are mostly of six inch size, some are larger, but very few exceed twelve inches.

It will pay tile manufacturers to keep in close touch with road projects and with highway engineers because this has come to be an important field for marketing drain tile.

#### CHEAPER IRON AND STEEL.

New inventions and progress in the metal industries as well as better organization and closer trimming on the part of industrial managers foretell the probability of cheaper iron and steel in the future. For example, there is a consular report from France stating that the Bassett Steel Works (Acieries Bassett) have discovered a new method for manufacturing cast iron and steel that reduces the cost below the prewar basis. It is a new method of fuel consumption not explained in detail, but which is said effects economies and also eliminates the necessity for coke. Time will perhaps tell the actual value of this discovery. Meantime it is encouraging to note that the metal industries everywhere are seeking earnestly for better methods and for lower cost of production.

#### THE BUILDING RECORD.

Statistics of the brick industry as compiled by the F. W. Dodge Company, publishers of the *American Contractor* and the *Architectural Record*, make a very good showing, everything considered.

These statistics cover 27 states in the northeastern quarter of the United States and are a fair index to the country over though, of course, the tabulated results do not represent the sum total. The figures indicate that for the first half of the year the total of contracts awarded runs above a billion dollars, which is more than any year except that of 1920.

In the classification of buildings, residential buildings lead the list both in floor space and in total value. The record indicates about 75 million feet of residential floor space in the contracts awarded in the territory covered during the first half of the year, and a total value of over 350 million dollars or about a third of all the building operations contracted for under the various classifications.

Considering the tabulated record for the states given the showing is fairly encouraging and the trend of events points toward the making of even a better record during the last half of the year.

#### BUILDING TRADE PRACTICES.

A shake-up in the form of investigation and indictment which started in New York, and finally extended to Chicago, the next largest city in the United States, raises a question of the necessity for a housecleaning and some reforms in the building trades.

It is not easy to sit in judgment and determine the amount of guilt and wrong practices which need reforming, but on the theory that where there is so much smoke there is some fire, we may assume that there are some objectionable practices in the building trades and some reforms that should be instituted. These seem to be more acute and noticeable in the larger centers of congested cities, and among the things which have been brought to light and published as the result of these investigations several stand out conspicuously as meriting thought and action.

Among the noticeable things is that where there is graft

which increases the cost burden on building it may often be traced to labor union leaders and to closed shop practices. Whether the ideas and practices for this form of hold up originates with them or is held out to them in the form of a temptation seems to be still an open question.

Another impression one gets from a study of the reports is that in large congested cities where competition is keen there is more temptation to develop schemes and sharp practices in the scramble for business, and these lead to the doing of things or the complying with practices which must be objectionable to the average upright business man.

Another impression is that scheming and unwholesome practices once started keep growing and multiplying until eventually they prove their own undoing and bring penalty on those indulging in them.

We have had a lot of personal preaching and printed advocacy of ethics in the business world. Some of this good doctrine should be taken to heart and those engaged in the building trades, especially in the larger cities where most of the objectionable practices seemed to develop, should get busy, clean house and start anew with a determination to play fair with each other and with the general public. In a word, it seems like the time has come to put into the building trade practices some of the better doctrines we have been preaching about for several years now.

#### THE MENACE OF UNEMPLOYMENT.

There are various estimates of the number of unemployed in the United States ranging from two million to four million, and now we are being told that unless unemployment can be reduced very shortly it will have a pronounced effect upon business because it will further curtail buying as well as develop a condition of hardship among the unemployed.

It is a peculiar fact that in face of this statement we have a statement from the Federal Reserve Board that the deposits in saving banks have increased lately. Surely the unemployed have been drawing on their savings, and whatever increase of deposits are showing up must come from the practice of unusual thrift on the part of those who are still employed.

Unemployment may not seem so burdensome or such a hardship until the winter months come, but unless it is relieved before winter then we may expect trying conditions. Knowledge of this should stimulate action toward seeking relief and finding employment for the unemployed between now and the winter season, so that when cold weather comes our army of unemployed may be reduced to a minimum.

#### THE FUEL OUTLOOK.

Coal offerings are plentiful now and the indications are that they will be plentiful and that coal mine operators will be anxious for business all through July and perhaps a part of August. There are predictions that during the late summer and fall there may develop a change and something of a scramble for coal.

Logically this argues for the placing of orders and the making of contracts for coal at the present time to supply the winter's needs. The logic is good, too, but there is a hesitancy, partly because it involves tying up of lots of money, and partly because there is a feeling that coal prices and freight rates are too high.

How much in the way of excess profits may be going to coal mine operators, and how much we are burdened with unnecessary freights are questions of dispute. Aside from these there is a feeling that wages in the coal mines and on the railroads are excessive in comparison with wages in



other industries and that they should be reduced and coal prices and freight rates cut down accordingly.

This is one of the things that is causing hesitancy about buying and contracting coal. There is an open question of whether too much hesitancy now may result in a scramble later on. Study these questions and let your judgment be your guide.

#### CHASE COMPANY EXPANDING.

The Chase Foundry & Manufacturing Co., of Columbus, Ohio, manufacturers of roller bearing trucks and industrial cars of all kinds for all purposes, wheels and axles, turntables, switches and a general line of industrial railway equipment, recently opened a sales agency in St. Paul, Minn. The Contractors Supply and Equipment Company, 1005 Guardian Life Building, that city, will handle the entire Chase line for that territory.

#### WESTINGHOUSE COMPANY OPERATES LARGEST RESTAURANT IN THE WORLD.

What is said to be the largest eating house in the world is that at East Pittsburgh, Pa., which was built by the Westinghouse Electric & Mfg. Company solely for the benefit of its 20,000 employes. In the cafeteria sections and dining hall 3,500 people can be fed at the same time.

#### ELECTRIC STORAGE BATTERY TRUCKS AND TRACTORS.

The Atlas Car and Manufacturing Co., Cleveland, Ohio, manufacturers of electric storage battery trucks and tractors, have published an interesting bulletin on same, giving illustrations and information on their four wheel steer truck—high platform type; "Atlas" H. P. trucks, two wheel drive; four wheel steer type H. P. 2, and four wheel drive, four wheel steer type H. P. 4. This bulletin gives specifications. These trucks are proving a great saving in time and trucking expense on clay plants. It would be well worth your while to investigate this method of hauling.

#### PLANT OF M. E. GREGORY AT CORNING DAMAGED BY FIRE.

The brickmaking department of the Corning Brick, Tile and Terra Cotta Co., Corning, N. Y., was completely destroyed by fire early in the morning of July 7, causing a loss of approximately \$75,000. The fire started from an overturned torch in the hands of a workman, one of the night force who was working in the generator room correcting a defect in the electric plant. Fortunately the firemen were able to confine the flames to the brickmaking department, so that the terra cotta plant was not injured at all and was functioning as usual the next morning. Mr. M. E. Gregory, the proprietor of the plant, reports that the loss was almost completely covered by insurance. Plans are now under way for the rebuilding of the plant. The company had a lot of contract work on hand sufficient to keep them running for four months.

Besides brick and terra cotta products, the Brick Works is manufacturing extensively at the present time chimney block and flashing block for roofing. The latter is manufactured under contract for the Barret Company, practically all of the work of this nature for the eastern United States being carried on at this plant.

As there is a considerable supply of brick, chimney blocks, etc., on hand, shipping from the plant will not be checked for some time.

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#### BRICK AND TILE DRYERS.

The International Clay Machinery Co. of Dayton, Ohio, mailed us recently one of their latest bulletins. This is a four leaf folder showing illustrations and giving detailed information relative to their metallic radiated and waste heat dryers, a producer gas fired dryer and dryer cars. A copy of this and other literature will be sent upon request. Write the International Clay Machinery Co., Dayton, Ohio.

#### CATALOG DEVOTED TO BRICK CONVEYORS.

The Mathews Gravity Carrier Co. of Ellwood City, Pa., has recently issued to the trade a fine catalog containing much valuable information regarding their various types of brick conveyors. Full page illustrations graphically detail the importance and convenience in use of the Mathews conveying system on different kinds of clay products plants. Write for a copy of this valuable booklet.

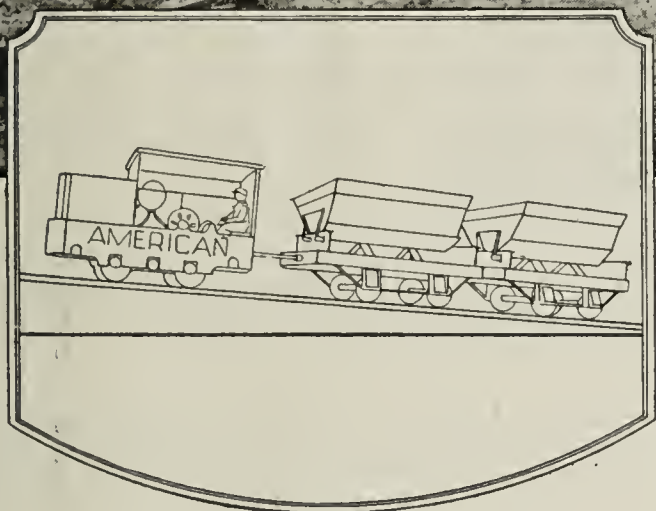
#### ADDITIONAL CLAY PROPERTY TO BE DEVELOPED BY CALIFORNIA COMPANY.

Because of its inability to obtain clay equal to the demands of its various plants, the Los Angeles Pressed Brick Company has decided to develop its extensive clay deposit holdings at Alberhill, Calif., and work to that end has already been started. Under the supervision of John Mills, mining superintendent, the company is now shipping about 50 car loads a month to its Los Angeles factory from property which has not been operated for fifteen years.

At present teams and auto trucks are delivering the clay over trap to gondola cars below, but it is planned to motorize the three-quarter mile haul very shortly, the clay to be delivered to bunkers, thence by gravity to railroad cars.

This development will grow extensively as time goes on, as the company owns upward of 2,000 acres of valuable clay deposits in three counties, and they will insure a steady market for all the clay they can handle.





*Tell us all about your transportation — **W H A T** you have to haul, and how far, and over what grades and what kind of track, etc. You will be interested in our recommendations — **t h e y** will not obligate you in the slightest.*

## 2,000 Feet Straight Uphill!

"Before buying our 'American' Gasoline Locomotive," writes the owner of this installation, "we doubted whether we could get enough tonnage over our grades to supply our plant."

For two thousand feet, as his tracks approach the plant, they go up a grade 5 to 7½%. 2,000 feet is almost a half mile, and the little sketch shows what a 7% "hill" looks like. It is "some" climb, but "American" makes it—regularly and profitably. As the owner writes:

"Our installation is working perfectly. With one 'American' Gasoline Locomotive we are delivering more material than we used to get in with two, 2½-yard automobile dump trucks. The Locomotive is delivering this service with no apparent strain."

That's the kind of performance we build into every "American" Gasoline Locomotive we sell. The long experience and the good faith of The Hadfield-Penfield Steel Company and its policies of doing an honest, thorough job of every task it undertakes, backs the Locomotive line and protects every customer.

## The Hadfield-Penfield Steel Co.

BUCYRUS, OHIO

Gasoline Locomotive Sales Office,

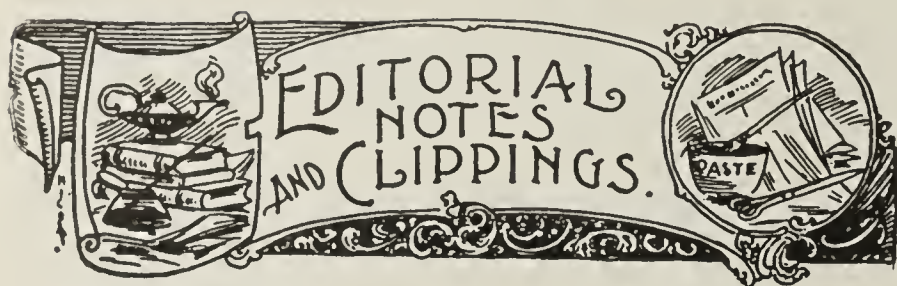
404 Hippodrome Bldg., Cleveland, Ohio



# AMERICAN Gasoline Locomotive

Mention THE CLAY-WORKER.





The Hazelton Brick Company, of Hazelton, Pa., recently suffered a \$1,000 loss by fire.

The Briggs-Michigan Clay Company of Lansing, Michigan, has been incorporated with \$500,000 capital stock.

The Pyramid Brick Company, of Cleveland, Ohio, has certified to an increase in its capital stock from \$300,000 to \$400,000.

Nervin Raber has bought a small tile factory at Fowler-ton, Ind. The plant, which has been idle for some time, will be put in operation at once.

The Tiernan Brick Company has opened its factory at Macomb, Ill., with practically all new and modern machinery. The capacity of the plant has been increased to 200,000 brick a day.

The Asheville Shale Brick Company of Asheville, N. C., are installing a new equipment consisting of dryer engine and other improvements at their plant. James E. Rector is at the head of the concern.

The Kulage Brick Company, of Gary, Ind., of which E. A. Morse is president, has under contemplation the erection of a large common brick plant to be operated in addition to its present plant at Hobart, Ind., where they are now manufacturing face brick.

At a recent meeting of the directors of the Cisco Clay and Coal Company at Cisco, Texas, plans were completed for the erection of a large brick and tile plant at that point. C. B. Push is president of the company, J. A. Colliton, secretary, and T. B. Hoffer, treasurer.

At a recent meeting of the directors of the Sheffield Brick & Tile Company and the Sheffield Tile Company of Sheffield, Iowa, F. F. Carhart was elected to the office of president and general manager of both companies to fill the vacancies caused by the death of the former president and general manager, C. C. Carhart.

The plant of the Austin Clay Works, Austin, Minn., was almost completely destroyed by fire June 27th. causing an estimated loss of \$125,000. Business had been good with the company and the plant was running full time. M. S. Fisck, president of the company, states that the plant will be rebuilt at once. The origin of the fire was unknown.

The annual meeting of the Albion (Ill.) Shale Brick Company was held June 20 in Albion. A number of out-of-town stockholders were present to participate in the election. The retiring officers were re-elected for the ensuing year. The stockholders were taken through the plant and were gratified at the condition of the business and the general outlook for the future.

The Heron Lake Brick & Tile Company, Heron Lake, Minn., which has been closed down for some time, will be started in the very near future. The owners report an improvement in business in that section which justifies it in again operating the plant. They had a large stock on hand at the time of closing down and so have been able to fill all orders up to this time.

Recently organized to produce basic brick for open hearth furnaces, the Superior Basic Brick Company, expects to have its plant at Valencia, Pa., ready for operation some time in July. Officers are: President, H. Groninger; vice-president, John Robertson; general manager, William M. Hertzler, and secretary-treasurer, J. M. Dixon. These, with James E. Shaef-fer, constitute the board of directors.

Charles A. Simmons, of Springfield, Ohio, has taken over the plant of the National Tile Roofing Company at Lima, Ohio, where he will manufacture clay building tile of all sizes. The plant is leased for five years and the company which Mr. Simmons has formed for the operation of the Lima plant will be known as the Ohio Fireproofing Company. They will manufacture hollow building tile, face brick and drain tile, as well as roofing tile.

The Manatee River Pottery Company, Bradentown, Fla., contemplates establishing a plant for the manufacture of high grade pottery.

The William Dee Clay Manufacturing Company of Chicago, Ill., has recently filed a statement increasing their capital stock from \$100,000 to \$600,000.

The Bingen Brick Manufacturing Company of Bethlehem, Pa., has recently been incorporated with \$50,000 capital stock. Mahlon Ritter is at the head of the enterprise.

The Washington Brick, Lime & Sewer Pipe Company of Spokane, Wash, recently closed a contract for a vitrified pipe for a line of pipe a mile and a half long between two cities.

The Interstate Commerce Commission has issued an order reducing freight rates on brick and tile from Great Falls, Montana, to northern Montana that will amount to about 20 cents on the hundred pounds.

The Decatur Brick Manufacturing Company, Decatur, is running its plant to capacity at present. The prices of common brick have not declined in that city, still selling at \$18.00 per thousand. C. F. Mattes, the sales manager reports business is improving.

Coal Grove Brick & Tile Company of Huntington, W. Va., has recently been granted a charter. The company is capitalized at \$100,000. The incorporators are J. W. Lowery, Iron-ton; T. E. Jeffries, G. R. Williams, G. W. Shepherd, J. K. Parsons, of Huntington.

The William E. Martin & Sons Company, manufacturers of tile at LeClaire, Iowa, will install a tunnel truck dryer with a capacity of 17,200 hollow tile blocks per drying day of 12 hours. The equipment will be installed by Proctor & Schwartz of Philadelphia.

The Ravenswood Porcelain Company, of Ravenswood, West Virginia, which was recently incorporated, expects shortly to begin the erection of a factory for the manufacture of electrical porcelain products. The proposed enterprise is to cost in the neighborhood of \$30,000.00.

A new chinaware company to manufacture general ware has been incorporated in New York City with a capital stock of \$850,000.00, and is to be known as the General Chinaware Corporation. The Messrs. William Hardman, Chas. C. Atwood and Lewis H. Rogers are at the head of the firm. All are of New York.

Oliver Mourning, of Wichita, Kansas, has an option on a very fine clay deposit which has been tested and found to be suitable for the manufacture of face brick. Associated with Mr. Mourning are C. A. Taylor and J. F. Purcell, both of Wichita. It is hoped to have the plant ready for operation early in the fall.

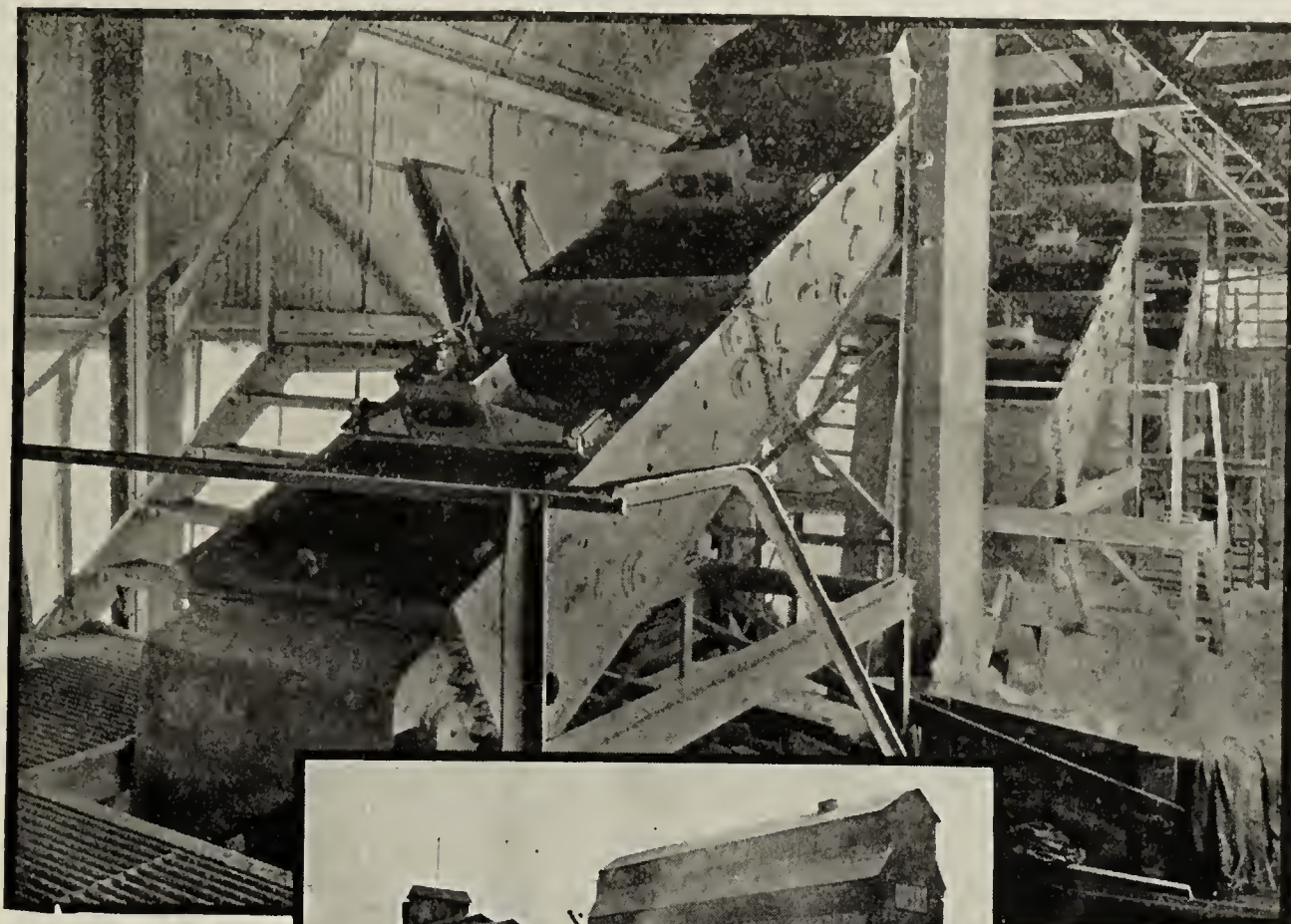
The Gadsden Clay Products Company, which recently built and is operating one of the largest brick plants in the state, at Gadsden, Ala., has filed incorporation papers which show it has a paid up capital of \$25,000. Robert Riley is president, John Riley, vice-president and Gordon Hood treasurer. The plant will later on be extended and will manufacture building tile.

It is reported that the strike at the Atlas Brick & Supply Company, at Hudson, N. Y., has failed. The operators have been on strike since June 1st. The owners of the plant issued an ultimatum to the men to the effect of "Work or Quit." The men decided to work. There are nearly 500 operators employed and today all are again busy with their various duties.

The Crawfordsville Shale Brick Company which has for several years been contemplating extensive improvements at its plant at Crawfordsville, Ind., has just started work on same. Three large brick buildings will be erected to house the machinery, dry room, office, etc. New machinery will also be added and the plant brought up-to-date in every particular.

There has been a series of practical demonstrations of how chinaware is made, in the New York store of John Wanamaker. It showed how the better class of dinner pieces were made from the mass of clay to the point of being used. The demonstrator was a potter of wide experience in the manufacture as practiced in Europe. This was given to enlighten the general public in the methods and procedure of the different points in the making of the pieces we use to such a large extent.





*Installation of six  
HUM-MER Electric  
Screens at plant of  
Summit Silica Co.*



## Six HUM-MER *Electric* Screens Operating Day and Night Since March, 1920

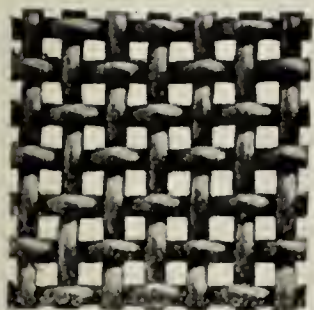
Report submitted by  
J. E. RUCK, Gen. Mgr.

### The Summit Silica Co.

"We have had six HUM-MER Electric Screens in operation night and day since the middle of March last year (1920), and we are very much pleased with them.

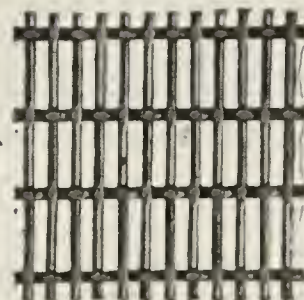
"The up-keep is small and no other style of screen which has ever come to our notice produces a material so well graded as the HUM-MER."

*The Hum-mer Electric Screen can be used to screen any material—wet, damp or dry. Send for Catalogue No. 42-W*



**THE W. S. TYLER COMPANY**  
CLEVELAND, OHIO

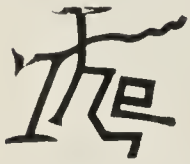
Manufacturers of Woven Wire Screens and Screening Equipment





Written for THE CLAY-WORKER.

## SEEN IN NEW JERSEY.



UNREST felt in New York is reflected in a large measure in this state. While work is progressing in all of the lines in which there is an urgent need, there is an undertone felt that is very often discouraging.

Some centers are practically idle. There is plenty to be done in the construction line, but the pall caused by the effect of the contractors to reduce the scale of wages paid to labor is producing a period of inactivity. What the outcome will be, is as yet doubtful. The proper method will be forthcoming after the thing has been thrashed out on all sides. The effect of these efforts has been to bring practically all work to a standstill, in several cases. This momentary slackening is affording the architects an opportunity to complete contemplated work and get their figures all in, preparatory to a boom. Most prospective builders feel the tangle will eventually straighten and are in several cases disposed to wait. The question of delay is a matter for the individual. There are some who feel prices and labor have reached the bottom. Material prices have decreased considerably in the majority of cases and are generally considered at the bottom level, as at present.

Throughout the state generally there is an ever growing feeling toward building, but as conditions now exist, it is out of the question for a good showing. Some centers are showing substantial totals of work proposed. This would tend to indicate that the prospective builders are determined to get results despite their various setbacks. Most of the work at present proposed and in process of venture, is along the lines of residential work. While this is a dire need, there is a growing need for industrial building. The totals in the latter work do not show up in any way to the totals of residential work and is needed quite as bad. Most manufacturers feel that present buildings will have to do with as few alterations as possible. Around the Newark center the building totals run to seven figures, but as before stated, it is mostly along the housing line.

The brick market throughout the state has no inducing features. There is a little movement noted, but the quantities taken are not very far above normal. The shining light to be seen is in the heavy draught due to the extensive residential projects. In the northern centers the prices of common brick vary from \$20.00 to \$22.00 delivered at the job. This variation is not constant in all cases. Large quantities may be shaded a trifle and smaller quantities might run in the reverse direction. Around Newark the dealers are quoting \$22.00 delivered, while in Paterson the price is a shade less. In the Hackensack section the range in price is between

\$18.00 and \$19.00 at the yards. These same brick delivered are quoted between \$21.00 and \$22.00. The difference is in a large measure due to quantity and length of haul. At Trenton the prices are substantially the same as in the northern part of the state, and compare favorably with the prices as seen in the Hackensack section. At New Brunswick the prices seem to be in between and there is a fair reserve on hand. There is quite a little seen moving in this section and comes up in a fair way with the balance of the state. Several enterprise are contemplated that will draw fairly well on any excess that may be on hand.

There is a fair demand for face brick,—this is an increase over what has been called for in the past. The housing enterprises are responsible for this increased call, as this class of brick is needed to put the finishing touches on the buildings. The smooth texture varieties are not in as much demand as the rough texture, except in a few instances. Buffs and dark reds are the colors that have the call. The prices asked vary from \$40.00 to \$50.00. The variation is due to the character of brick used and place wanted. So great has some of this increased demand become that some dealers are optimistic in their expressions regarding the immediate future. All are looking forward and upward to better times, when most of the labor difficulties will have become disentangled.

It has been reported that the usual week's vacation for women in the plant of Thomas Maddock's Sons in Trenton, N. J., will be omitted this year. The reason given is due to the general business conditions. This is regretted by many of the operatives as the custom has been in operation for a number of years.

Fred A. Whitaker, the general superintendent of the General Ceramic Company's plant at Keasby, N. J., is to take a two months' pleasure trip in Europe in the company of Mrs. Whitaker. The trip will comprise a visit to Germany and other continental countries.

The Sneyd Enamel Brick Company of Trenton, N. J., has been manufacturing a high grade fire brick for use in the various potteries in this section. They will now turn their attention to the making of enameled brick. No enameled brick has been made by this company for some time. This move has been made, due to the increased demand for this class of brick, and it is expected that the production will become an important feature at the plant. Mr. Chas. T. H. Phillips is president of the concern.

A. L. B.

The Orangeville Brick & Shale Products Company, of Orangeville, Ohio, has been incorporated with \$100,000 capital stock for the purpose of engaging in manufacture of brick. The incorporators are: E. W. Hyde, C. E. Dawes, R. J. Dawes and R. H. Morrison.

## UNLOADING FOR 3 CENTS PER TON



Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.

**The Columbus Conveyor Co., Columbus, O.**

## Webster's Continuous Down Draft and Continuous Muffle Kilns

Patented in United States, Canada and Great Britain. Marvels of ingenuity and simplicity. Pronounced by experts to be the most perfect and cheapest kilns to construct and the most economical to operate, ever invented or put upon the world's markets.

Equally as economical for burning any class of goods from common bricks to the highest grade ceramics, glazed ware, etc.

## HENRY WEBSTER AND SONS,

628 Lexington Avenue, Newport, Ky.

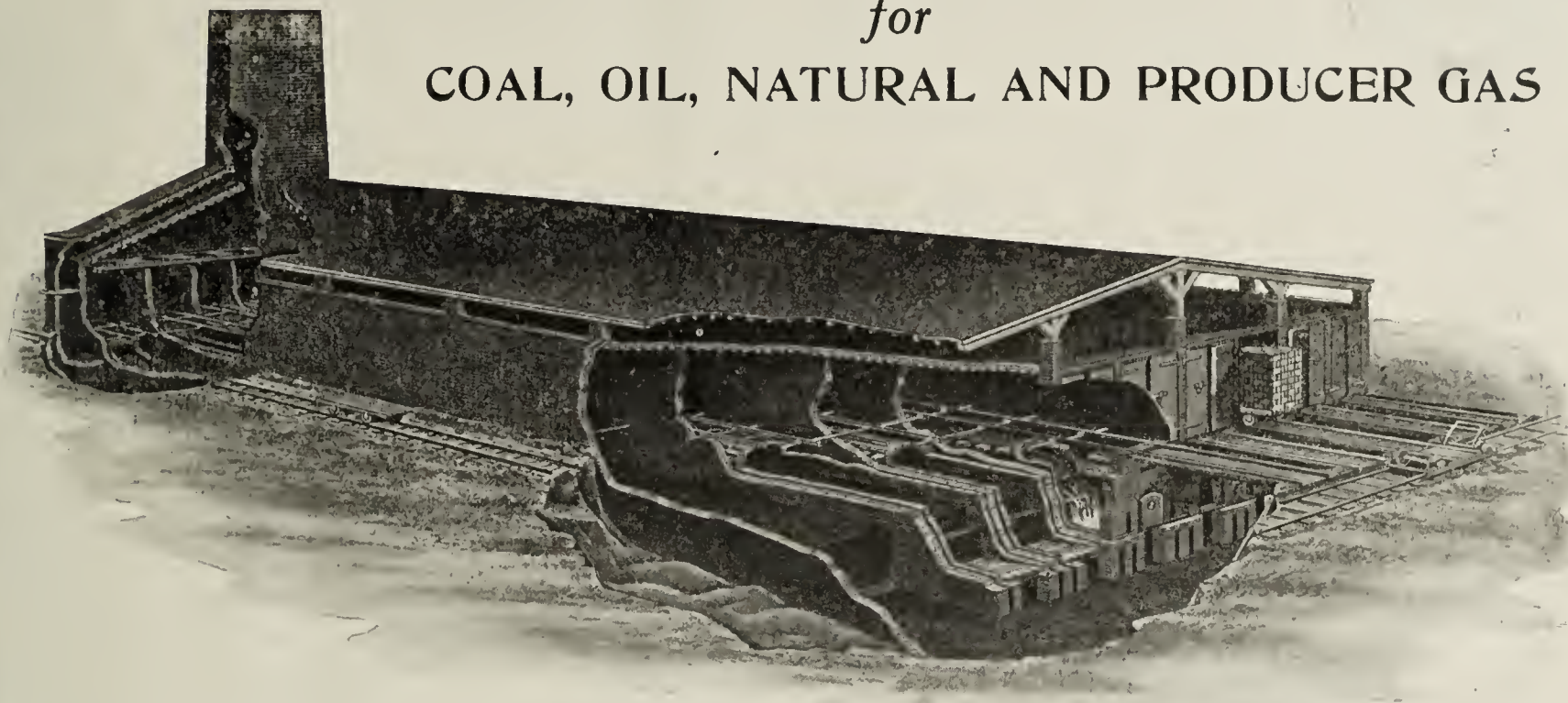
Kiln specialists and consulting engineers. Forty years of practical experience in clay products industries and continuous kilns.

Members N. B. M. A. U. S. A. Institute of Clay Workers Great Britain, Blue prints of kiln can be seen at Clay-Worker office, Indianapolis, Ind.

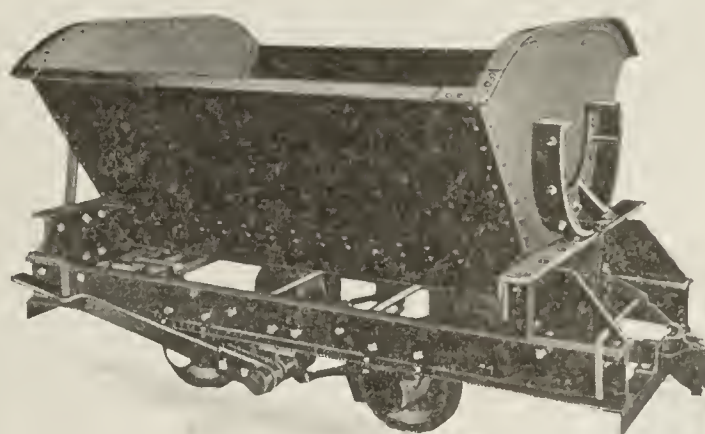
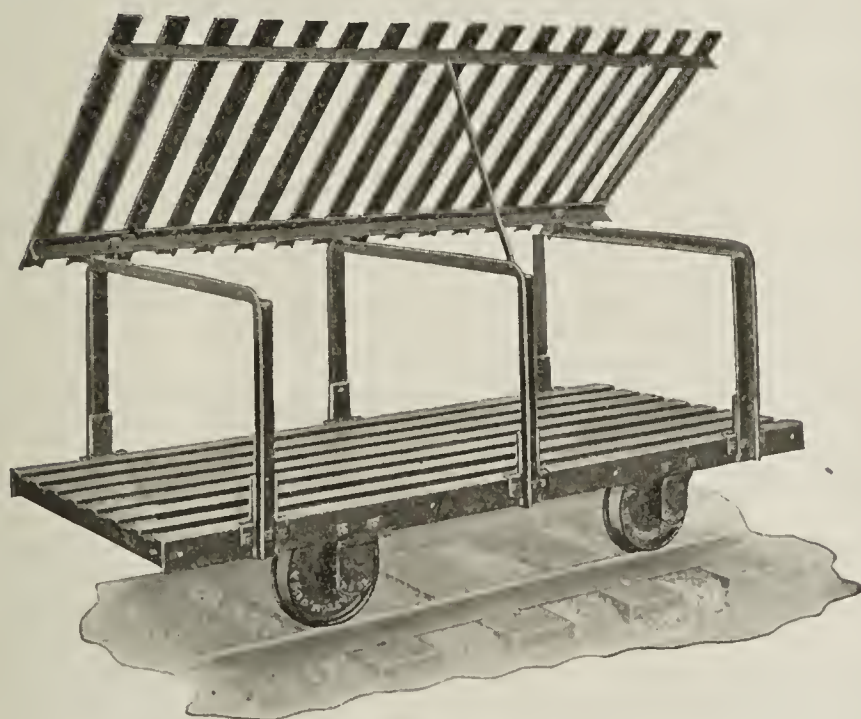


# DRYERS METALLIC RADIATION

*for*  
COAL, OIL, NATURAL AND PRODUCER GAS



## DRYER AND DUMP CARS



# International Clay Machinery Co.

Dayton, Ohio, U.S.A.

Pittsburgh, Pa.

New York

Toronto, Ont., Canada

Mention THE CLAY-WORKER.



Written for THE CLAY-WORKER.

## BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.



THINGS ARE LOOKING some better for the brick manufacturers of Evansville and southern Indiana than they were a month or two months ago and while there is no great amount of building now going on as compared to normal times, operations are getting better gradually and building contractors, as well as the brick manufacturers, are not dis-

posed to be discouraged over the outlook. The plant of the Standard Brick Manufacturing Company on First avenue in that city has been closed down since last fall and John Andres, the secretary and treasurer of the company, said the other day that he did not know when the factory would resume operations. The plant of the company that is located on the Illinois Central Railroad and the Ohio Valley Railroad at the edge of the city of Evansville is being operated on fairly good time and is turning out drain tile and building tile.

The company's plant on the Louisville and Nashville Railroad is making brick and is running about 60 per cent capacity. Mr. Andres said the other day that prospects for building are better right now than for some time past. The contract was let some time ago for the new administration building, power plant and gymnasium of the Evansville College and this work is now under way. Between twenty-five and thirty new houses in Evansville are now in the course of construction and, according to contractors and brick manufacturers, the number ought to be ten times this to take care of the demand for new homes.

The Standard Brick Manufacturing Co. will furnish the brick for the large addition that will be built to the Deaconess Hospital at Evansville. A high school that will cost in the neighborhood of \$100,000 will be built at Fort Branch, a few miles north of Evansville and the contract for this new building will be let as soon as the sale of bonds has been authorized by the state tax board of Indiana. Another new school will be built at Patoka, Ind., as soon as the bond sale has been authorized. The Standard Brick Manufacturing Co. cut the price of building brick 30 per cent in Evansville early in the year and this cut has not stimulated building operations as it was believed it would. But, according to Mr. Andres, the stimulation will come later on. He said the other day that the outlook right now is brighter than it

has been at any time this summer. He says that the reconstruction period is passing surely but slowly and that things are reaching a permanent level and after the first of September he believes business in many lines will show a decided improvement and that things will move right along.

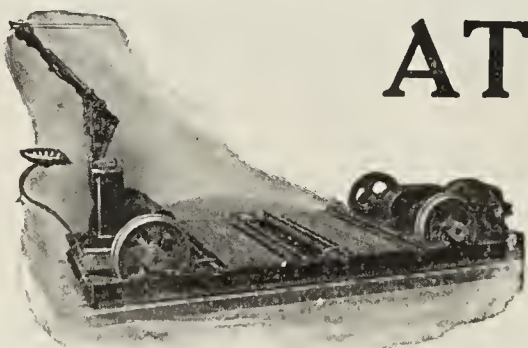
The brick plants at Huntingsburg have not been doing a great amount of work during the past month, but things ought to be a good deal better by the first of September. The U. S. Brick Company at Tell City has been doing a nice lot of business and has been shipping a good many brick into the northwest. The plant has been operating on very good time and the company is looking for a fairly good business the balance of the season. The two plants at Albion, Ill., making street brick and building tile, have been doing a very good business all summer and are selling a good many of their products in St. Louis. The contractors and brick men at Evansville report that a good many plans now are being drawn and a good deal of figuring is being done and that building operations ought to show a decided picking up by early fall of this year.

Henry C. Kleymeyer, president of the Standard Brick Manufacturing Company and president of the Evansville Chamber of Commerce, has named a committee to work out plans for a million dollar housing corporation. The idea was suggested by Ben Paul, an Evansville business man, who pointed out that the city's greatest need at this time is more houses. The committee is composed of contractors, building material men, bankers, merchants and other classes. It is the intention of the men who are back of the move to build at least 300 new houses in Evansville this year and a great many more next year. According to Edward C. Kerth, the city building inspector at Evansville, that city is in need right now of at least 3,000 new homes. James S. Johnson, secretary of the Chamber of Commerce, says if Evansville had 500 new homes now that it would mean an increase of at least 2,500 in population in that city.

Changes in the decorations of pottery products this year are slight, according to A. L. Davidson, of the Crown Potteries at Evansville. New designs added the first of the year followed much the lines of the designs of last year, simple colors and designs being preferred by the trade. The plant of the Crown Potteries is now being operated on full time with a full force of men.

Philip Riester, a retired brick manufacturer at Washington, Ind., died on June 10th, at the home of his daughter in that city. He is survived by eight children. Mr. Riester was engaged in the brick manufacturing business for a number of years and was well and favorably known to the trade in southern and central Indiana.

A HOOSIER.



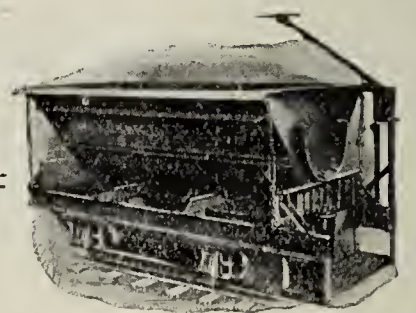
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Double Truck Electric Transfer Car.

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Tunnel Kiln Cars

Let us solve your haulage problems.



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Cleveland, Ohio

Manufacturers

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# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

# THE MANUFACTURERS EQUIPMENT CO.

## DAYTON, OHIO, U. S. A.



DO YOU WANT

# Any Thing Used On A Brickyard or a Clay Plant.

We Handle it.  
Ask Us.

## CHICAGO BRICK MACHINERY CO.

2825 W. Harrison St.

Chicago Ill.

Written for THE CLAY-WORKER.

MILWAUKEE AND WISCONSIN BRICK AND CLAY NEWS.



VIEWING the situation in the clay products industry at this time from expressions gathered among the manufacturers of this territory, leads to the conclusion that business conditions are normally satisfactory. Comparing the past few years when war conditions set new standards in every industry with today, there is no doubt but that the volume of business now is below that standard. However, based on the pre-war or normal situation manufacturers voice no complaint but believe that the industry is in satisfactory condition.

While many reports of building conditions indicate that revival of the construction industry is going ahead very slow in many sections, Milwaukee is probably more fortunate than other large centers. Taking the month of June, there were 3,415 permits issued here for construction valued at \$2,688,632, while for the corresponding period a year ago only 2,170 permits were issued for \$2,265,170. For the year to date the record is 14,364 permits representing expenditures of \$11,667,986, compared with 11,924 permits for \$11,048,017 for the first six months of 1920. This remarkable showing is laid to several reasons, one being the fact that building materials have declined to meet present day conditions and the other that building labor in Milwaukee has been able to see the light and accept a wage readjustment to enable construction to go ahead.

A further ray of hope has been cast on the local situation by the action of the Wisconsin Supreme Court in declaring the rent law unconstitutional. During the recent period building was largely done by persons who desired to erect homes or flats for their own use. Investors feared that the rent regulation would deprive them of a legitimate return on their investments in building under conditions of high costs. Now that they are able to determine rentals on a fair basis of their investment, the movement to resume building for investment purposes has received a new impetus. Architects have a large number of plans either under way or completed, awaiting a more favorable period to start construction work. The past few months have seen action on this work and many plans for large and small structures are being prepared for inspection.

Activity among manufacturers throughout the state is reported here. New equipment is being added to increase the production capacity of Janesville-made brick, which have a good market in and near Wisconsin. The plant operated by Freese Brothers at Janesville now turns out 20,000 bricks a day and will soon be operating, in addition to two kilns already in use, a third kiln having a capacity of 100,000 bricks. The company has been operating without interruption, the force working on full time. Production includes both smooth and rough faced texture brick for construction. Clay is obtained from a pit near the kilns, off Pleasant street. Edward and Fred Freese are in charge of the company.

The new kiln of the Freese concern is one of the largest in southern Wisconsin and will bring the total drying capacity of the plant to 300,000 brick. The entire plant is modernly equipped. Modern machinery is used for mixing the clay as hauled from the pits to be dumped into the moulding vats. The clay is run onto a table in a long form which enables cutting 12 brick sized pieces, these being run into drying sheds and stacked, after which they are conveyed into the kilns.

"We are going ahead and increasing our capacity, for building is certain to gain momentum," said the Freese Brothers in an interview. "We have been obtaining orders of sufficient volume to warrant full time operations. Keeping up production is more than many brick companies have been able to do because building operations are generally curtailed."

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LOAD  
COAL  
MECHANICAL  
LYCUT  
DOWN  
THE  
FUEL  
EXPENSE

### The Galion Skip Hoist Unloader

(Illustrated Above)

saved The Burton-Townsend Co., Zanesville, O.,  
\$12.00 per day—besides a lot of worry.

Asking for particulars doesn't obligate you.

### THE GALION IRON WORKS & MFG. CO.

204 Wyandot Bldg.

Galion, Ohio





Range of Socket  
Pipe made on

3" **Green Sizes** To 42"

**STEVENSON  
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**OUR NEW HAND OPERATED  
PIPE TURNER**  
**IS NOW READY "YOU NEED IT"**

**MANUFACTURING SPECIALISTS—**

DRY PANS  
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Bulletins on request.

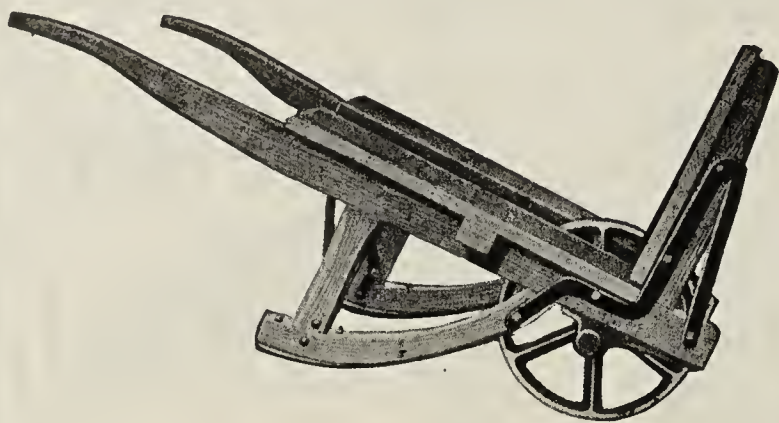
**THE STEVENSON COMPANY**

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## The Invincible Barrow



The favorite barrow has lost none of its popularity. We furnish them for either brick or sewer pipe and with plain wood, babbitted or spring bearings. They are honestly constructed thruout. On account of increased manufacturing facilities we are able to make immediate delivery.

Write For Prices

**The Toronto Foundry and Machine Co.**  
Toronto, Ohio

## Manganese

We have prepared for the Spring and Summer building boom. Have You?

We have all standard mesh manganese, especially prepared for Brickmaking, in stock ready for prompt shipment, with our mines and mill running full time.

If you have not already arranged for your 1921 supply of MANGANESE, we would advise that you send us your order for your equipments at once.

*We guarantee an even  
grade product at all times.*

**Hy-Grade Manganese  
Company**

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Sales Office  
Charleston, W. Va.

Written for THE CLAY-WORKER.

BRICK AND BUILDING NEWS OF CINCINNATI.



REAL SUMMER dullness is noted in this section in the building industry. There are several good reasons for this state of affairs, and the situation does not, at least for the present, appear to offer much in the way of betterment. It is like repeating an old story, but the trouble is still to be laid at the door of high cost. High cost of materials, to some degree, but to a larger extent, to the continued attitude of labor, which seems obsessed with the idea that there is no virtue of labor unless it can be made to earn a "decent living." In other words there seems to be little chance for argument on any other score so far as they are concerned.

In the past few weeks there has been a considerable amount of agitation with regard to the question of an "open shop" here, and a still more live topic of investigation pertaining to the matter of price fixing in the building material field, as has been hinted at by some of the interested parties. It seems that the labor element is inclined to believe that there has been some reason for the high cost of materials, other than is given out. The matter seems to be one wherein the labor unions are endeavoring to show that they are not responsible for the high cost of building, and are demanding that an investigation be made. This has been promised.

With regard to the question of an open shop there is considerable reason why this should be undertaken. There are at this time many structures, some of which are of considerable magnitude, that are now being held up on account of the conditions that are in reality prohibitive and the prospects are that unless something is done to bring about a change that the summer and fall will pass with little in the way of any betterment, due to the high cost of construction. It is said that if the "open shop" was in order here that it would be a help toward better conditions in the building industry. It will start work involving fifty millions, is the way that the matter has been put. There has been nothing definite done, as yet, and the matter is still being given a great deal of thought and some action.

The month of June was not a very promising one for the building industry here. The total value of all improvements, including new buildings, alterations and repairs, amounted to \$1,424,510. There were forty-four permits for brick buildings—residences, with an estimated value of \$377,910,73; frame residences, value, \$465,800; 161 garages, value, \$68,685; two school buildings, value, \$165,000, and one tenement, value, \$20,000. There were 227 alternation permits, value, \$298,810, and 104 repair permits, value, \$18,305. This compares only fairly with last year, but is better than the same month two years ago.

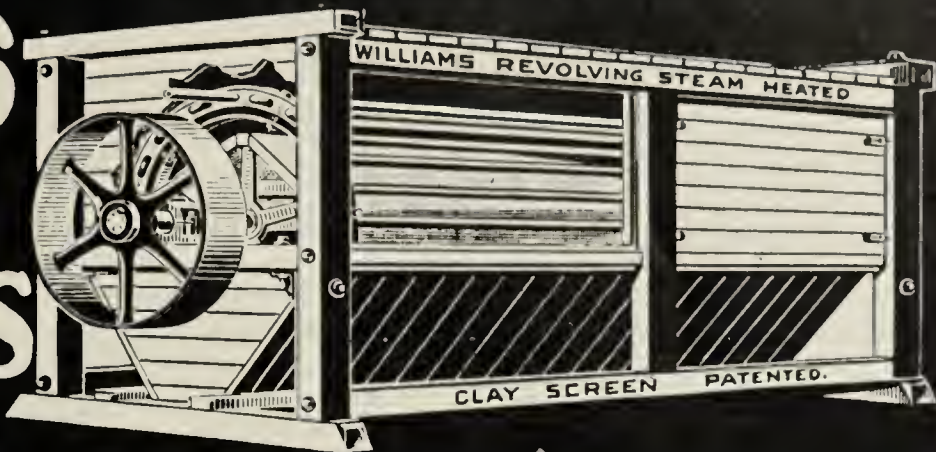
In anticipation of a formal ratification of the merger of the Builders' Exchange and the Building Construction Employers' Association, the fourth floor of the formers' location on Race street, has been set aside for the offices of the combined organizations.

Joseph H. Gest, president of the Rockwood Pottery Co., and director of the Cincinnati Art Museum, is to be a member of the newly-created National Gallery of Art Commission, the latter being under the supervision of the Smithsonian Institute, Washington, and its purpose will be to promote and develop the National Gallery of Art at Washington. The first action will be to provide a suitable building for the valuable art exhibit.

Plans for the construction of 35 homes, all to be built for the market, have been announced by the Hamilton-Moy-  
(Continued on page 76.)



# Williams Patented Clay Grinders

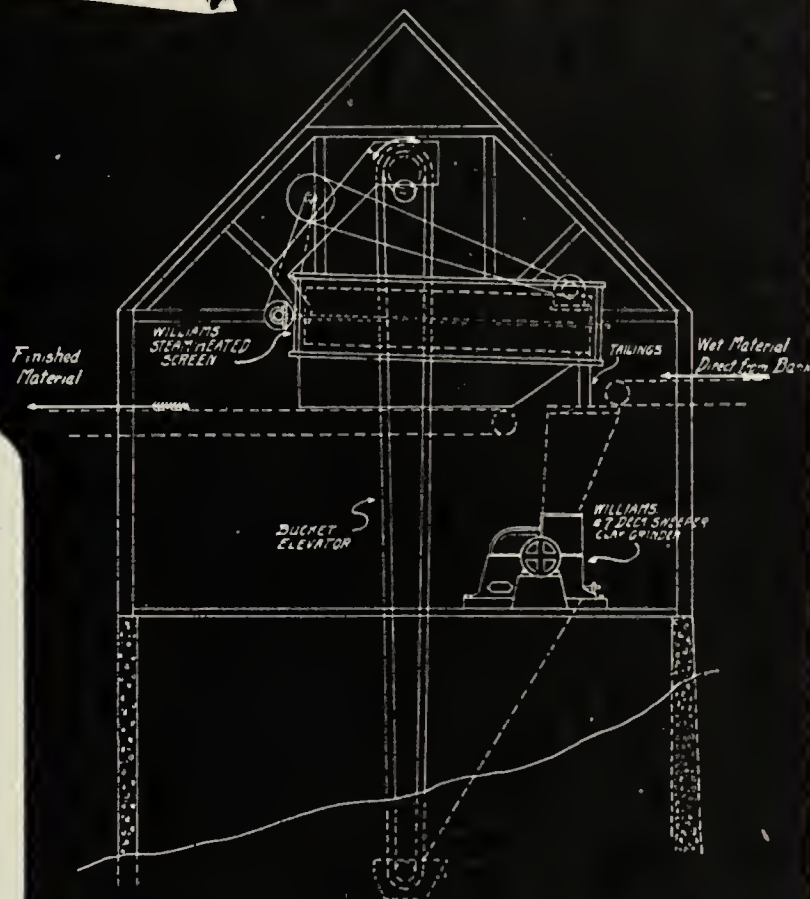


## End Lime-Pebble or Granular Clay Troubles

Handles wet clay or shale direct from the bank. One Williams Steam Jacketed Deck Sweeper Grinder takes the place of two or three dry pans. It does the work faster, with less power, and at a lower cost per ton. One user reports 20 to 25 tons per hour with the No. 5. In another plant, one machine grinds enough shale for 75,000 to 80,000 bricks per day. Many Deck Sweeper Grinders have given years of hard service with very low maintenance expense.

## Lime-Pebbly, Wet Clay to 8 Mesh

The Colborn Brick and Tile Co., Barr, Minn., are using two No. 7 Deck Sweepers and Williams Steam heated Screens with total capacity of 400 tons per day, installation of which is shown in the sketch to the right. They say that this is the only equipment that will take wet clay and shale containing lime pebbles direct from the bank, in all kinds of weather and successfully pulverize it down to 8 mesh and finer, enabling them to make marketable brick and tile.



## Steam Jacket Prevents Choking

All parts of Williams equipment coming in contact with wet clay are steam heated like the mould box of a brick press, absolutely preventing choking even in extremely wet weather.

## Williams Hammer Principle

The hinge hammer principle, originated by Williams, will fit your needs. Put your clay problems up to the Williams Engineering Department. No charge for preliminary service. Write for full information.

**WILLIAMS PATENT CRUSHER AND PULVERIZER COMPANY**  
HINGED HAMMER ESTABLISHED 1871

PLANT AND GENERAL OFFICES  
2701 2723 NORTH BROADWAY

St. Louis, Missouri, U.S.A.

CHICAGO OFFICE  
37 W. VAN BUREN STREET

SAN FRANCISCO OFFICE  
67 SECOND STREET



# Williams

**Patent Crushers - Grinders - Shredders**



Mention THE CLAY-WORKER.



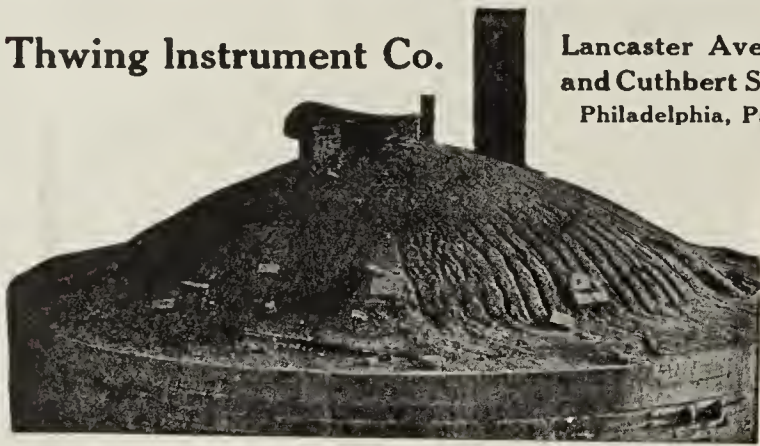
## Make your kilns turn out uniformly good work.

A reputation for consistently high grade product can be assured only by standardizing your operations. Thwing Pyrometers give you the information you must have to standardize your kiln burning operations--instant and accurate temperature determinations, easy to make, and for permanent record if desired. A Thwing Pyrometer installation is sure to save its cost many times over in reduced waste of fuel, increased saving of time, and assurance of more uniform and better quality of product. Write for full information. 110

# THWING PYROMETERS

Thwing Instrument Co.

Lancaster Ave.]  
and Cuthbert St.  
Philadelphia, Pa.



With Chase Flexible and Reversible Bearing  
and Folding Deck.

Single, Double and Triple Deck Dryer Cars,  
Transfer and Dump Cars, Turntables,  
Switches and Trackage.

The Chase Foundry & Mfg. Co., Columbus, O.

## CINCINNATI BRICK AND BUILDING NEWS.

(Continued from page 74.)

lan Company, to be built at Price Hill and Madisonville. The property has been purchased for the homes.

More than \$200,000 will be spent by several parties who have purchased the home of B. H. Kroger in the building of three homes on the site. A number of improvements are to be made in the surrounding property before the matter is completed.

Ground has been broken in orwood Heights for a new \$N1,000,000 theological seminary, to be builded adjoining the residence of Archbishop Moeller. It will be builded of face brick with limestone trimmings in the North Italian Rennaisance style of architecture. It will be 234 by 235 feet.

Plans have been posted by the Builders' Exchange for a six-story hotel for the Middletown Hotel Company, Middletown, O., the size to be 180 by 100 feet; also for a high school at Ravenna, O.

Anton and Rieg, who have the contract for a brick bungalow for Harold Jacobs, in Clifton, are letting the contracts for the work.

There is little of interest noted by the Purcell Brick Company, though there has been a fair demand for brick in the past month. Conditions now, however, seem to indicate that the future will not be as active as it has been.

The Evans Builders Company has moved its offices from the First National Bank to the Ginsom Art Company Building, at the southeast corner of Fourth and Plum streets. It has obtained the corner store, and has in addition to its offices, a nice and attractive display space that adds very much to the appearance of the same. A nice display room can be made here, showing the line of clay products made by the company.

Business is noted to be somewhat dull with the Builders Material Company, and there is not much that would indicate that the summer will prove to be a very active one. There is something going on, but the public is inclined to hold off as the situation is not now favorable for building operations.

The E. F. Grand Brick Company says that the situation is far from being of a favorable nature. It looks at this time as though the remainder of the year will be without anything worth while as far as the present appears, at least.

The demand for clay products is not very brisk now as reported by the Cincinnati Clay Products and Supply Company, and the general situation seems to be lacking in anything above the ordinary. The attitude of the public is rather an indifferent one.

CINCINNATUS.

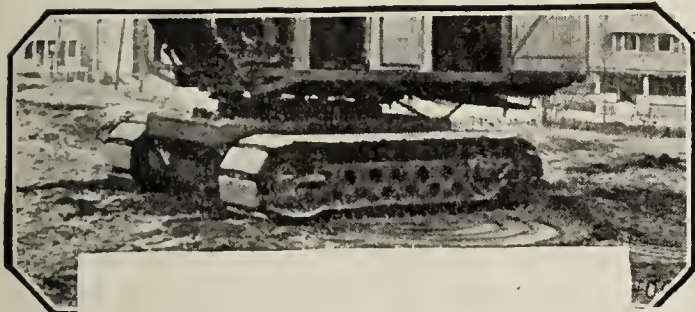
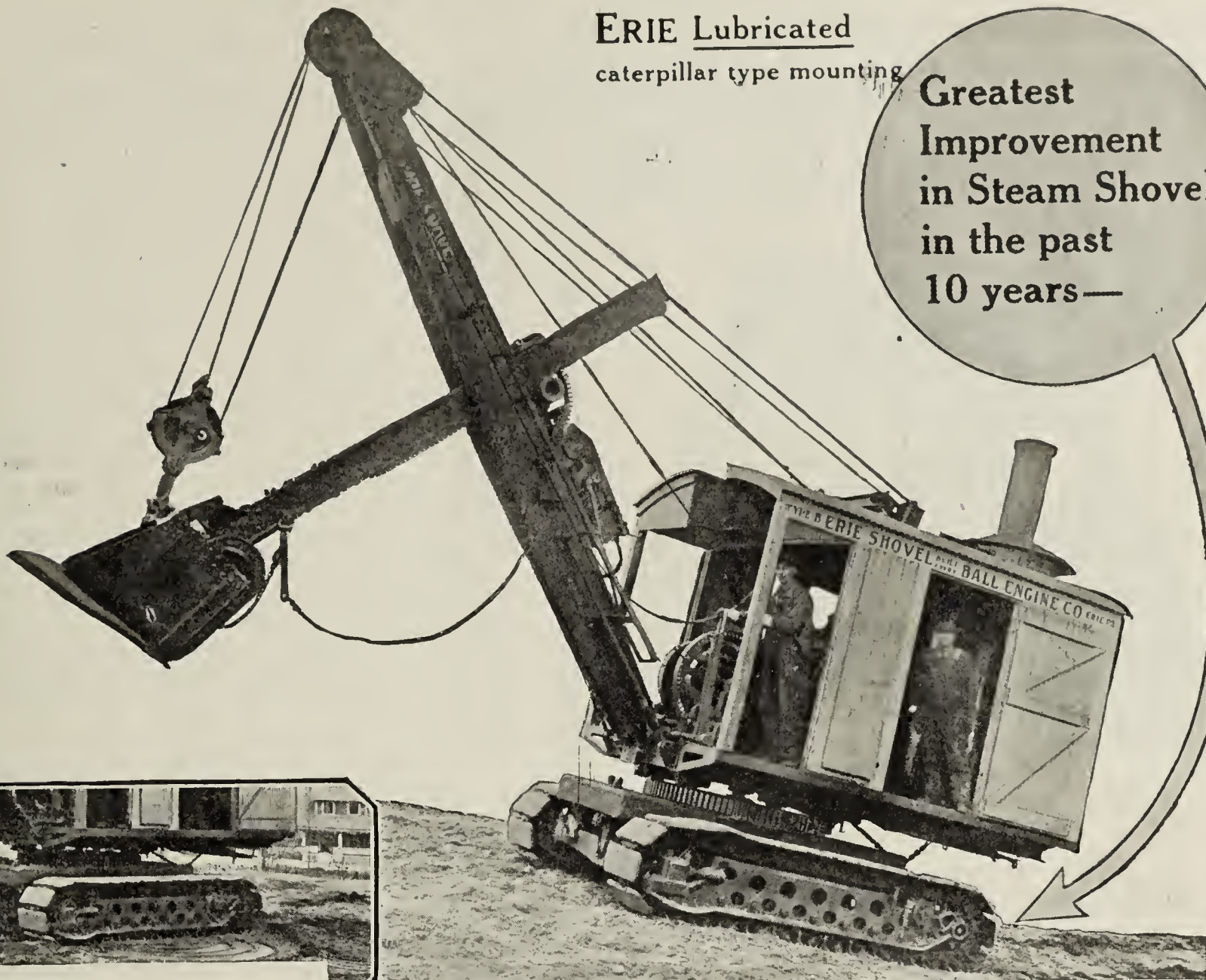
## FEDERAL CONTROL IN INDUSTRY.

While perhaps very few, if any, outside of the coal industry have any sympathy for the members of that industry in the threatened government control, it is giving us a start in a direction along which leads to danger. We had some examples of government control and regulation during the war and we have learned some lessons from it, one of which is that private control under fair government supervision is much better than government control that leads toward socialism. So while bills aiming at government control are directed more toward coal and lumber, forestry and railways, than toward any other lines of industry, if it once gets a start there is no telling how many industries may be involved before we reach the end. Therefore no matter if you do not sympathize with coal men or with lumbermen, let us look at this matter in the light of common sense and help put a check on the encouragement of socialistic ideas embodied in government control plans.



**ERIE Lubricated**  
caterpillar type mounting

**Greatest  
Improvement  
in Steam Shovels  
in the past  
10 years—**



**Perfect Power Steering  
from the Cab**

No pitman is needed to walk along beside the shovel and throw in clutches to steer.

The operator controls the steering from his regular position in the cab—he can turn either to right or left,—a gradual turn or a sharp turn, as desired. He can pivot right around in one spot if necessary, as shown in the photo directly above.

3-LEVER CONTROL, same as the traction wheel ERIE.

STEEL TREADS—high carbon, heat treated steel. Broken treads are not a factor to be considered.

IN EVERY WAY, the ERIE caterpillar type mounting is up to the standard of the ERIE Shovel. Remarkably powerful and efficient, and absolutely *reliable*.

**You can climb—**

grades as steep as 30% (engineer's measurement). The ERIE caterpillar type mounting will easily go anywhere that you ever have occasion to move a steam shovel.

**You can travel—**

faster than a mile an hour on high gear. Several times as fast as caterpillar type shovels that are not lubricated. A big saving in time—especially in moving from one job to another.

ERIE caterpillar type mounting has more power and speed—

**because it is Fully Lubricated**

Every connection in the tread belt is protected against wear. Oil reservoirs supply copious lubrication: all reservoirs are filled in an hour or two, with an ample oil supply for a month's service.

Here is one caterpillar type shovel that does not grind itself to pieces in a few miles of travel. Its durability is not to be compared with other continuous tread mountings that you may have seen or used.

We will be glad to send you full details.

**BALL ENGINE CO., Erie, Pa., U. S. A.**

Builders of ERIE Steam Shovels, Locomotive Cranes, Railway Ditchers  
Branch Offices; NEW YORK, BOSTON, CHICAGO. Representatives throughout the U.S.A

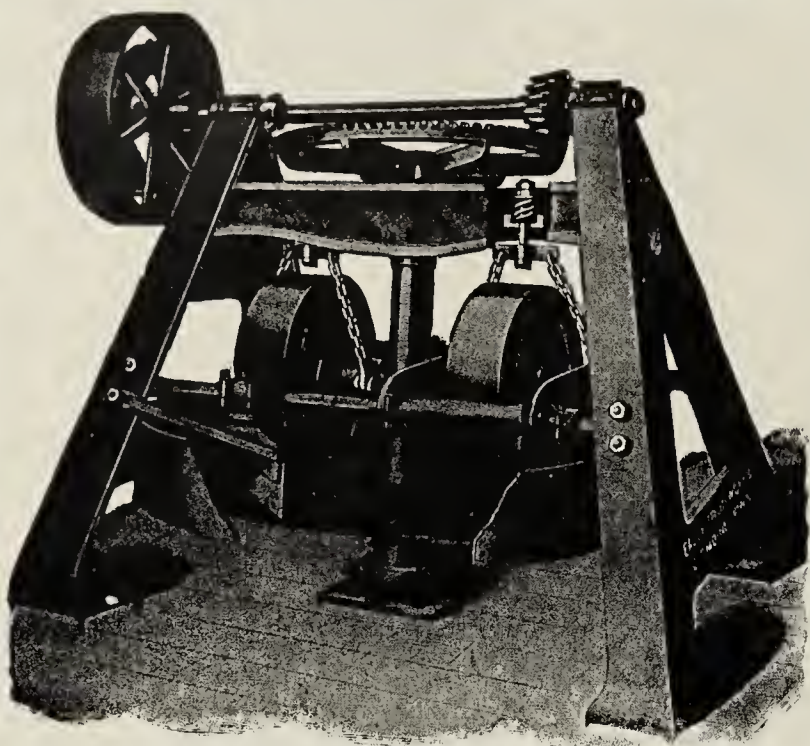
**ERIE** **Revolving  
Shovels**

**BALL**  
Engine Co.  
Erie, Pa.



## Independent and Suspended Mullers

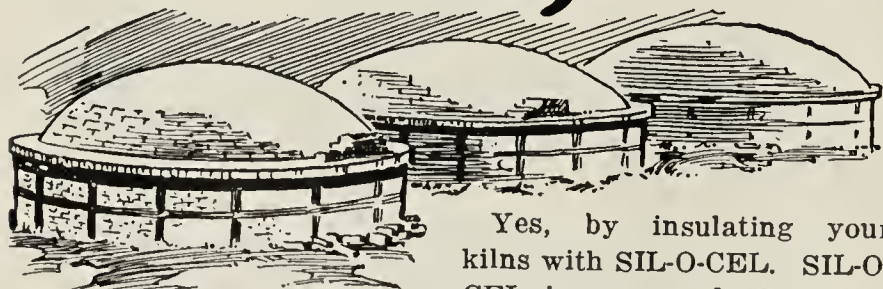
the distinguishing  
feature of our **DRY PANS**



Other valuable features which our  
catalogue fully describes.

**EAGLE IRON WORKS**  
Des Moines, Iowa

## Can you reduce your number of rejects ?



Yes, by insulating your kilns with SIL-O-CEL. SIL-O-CEL is composed of billions of dead air cells which prevent the penetration of heat.

Where there is no escape possible for heat, the temperature is bound to be more uniform. Such being the case, the chances of certain products being burned while others remain unbaked is reduced to a minimum. In addition to this, there is a material saving in fuel—consequently a saving in dollars and cents.

Insulate your kilns with SIL-O-CEL and reduce the number of your rejects.

## CELITE PRODUCTS COMPANY

NEW YORK, 11 BROADWAY  
PHILADELPHIA, LIBERTY BLDG  
PITTSBURGH, OLIVER BLDG  
CLEVELAND, GUARDIAN BLDG  
DETROIT, BOOK BUILDING  
CHICAGO, MONADNOCK BLDG  
ST. LOUIS, 1532 OLIVE STREET  
LOS ANGELES, VAN NUYS BLDG  
SAN FRANCISCO, MONADNOCK BLDG

## HOW DISHES ARE MADE.



THE ART OF MAKING dinnerware is one of the least known industries of the world, yet it is one of the oldest in the United States, according to H. Homer Knowles, in the Santa Clara, Calif., News. In making ware in the East, which is shipped to California and upon which the consumer pays \$2.33½ on every hundred pounds of ware and packing, it is generally made up of five different clays, also feldspar and flint. Let us take a 112 piece dinner set (two sets will go into a No. 6 cask), which, with straw and no ware, weighs 90 lbs. One-half of this would be 45 lbs., the approximate of a dinner set is 63 lbs., or an approximate total of 108 lbs., making the freight amount to about \$2.52 on one dinner set.

Being familiar with the pottery center of the United States, which is East Liverpool, Ohio, I will use that point as a center for shipping of clays, etc. Both the English china and English ball clay is shipped from England to Baltimore and from there by rail to East Liverpool, Ohio. American ball clay from Paris, Tenn. Other clays from North Carolina and Florida. Feldspar from Maine and flint from Delaware. All of this material is brought to East Liverpool by rail to the bins of the potteries, where it is weighed and mixed, taken to a large blunger, which is a vat with a revolving shaft, upon which are gates. Water is then mixed with the clay, and the material, now liquid, is run off into another blunger and from here to a sifter, and passes through a very fine silk bolting cloth. All of the matter not mixed properly runs off this cloth, and the body in slip form, as it is now called, goes into a large brick vat and is kept constantly in motion, so as not to allow it to settle. It is then pumped into hydraulic presses and all water extracted. From here it is taken into the "clay cellar" to age, and when ready is put through a large bug rill, which presses out all air blisters. Now it is ready for the clay shop.

To make a plate a piece of clay is cut off and placed upon a plaster block, and another plaster block called "batter" comes down upon the clay and makes a "bat" (that is, a flat piece of clay); this is then thrown upon a plaster mould; this mould is placed upon a fast revolving disc, known as a "jigger." The moulds form the inside of the plate, and a steel tool the shape of the back of the plate is brought down on the fast revolving clay and mould, and the plate is formed. Mould and plate are then taken by a boy called a "mould runner" into the stove room to dry. After it has dried sufficiently, the edge of the clay has left the mould. It is then taken out of the mould and turned over to the "finisher." About six of them are placed one on top of the other, on a "whirler," which is turned by hand and the rough edges are cut off. The face of the plate is then sponged, and they are placed separately on a long board and put into the "stillyards" until dry. From there they are taken to the "green" room, called such because the ware is still in a state called "green." The bisque kiln placers take this ware and place it upon sand in a clay "sagger;" this is sealed up so that the flames cannot get to the ware. After about 3,000 of these saggars have been filled and placed in the kiln, the kiln is sealed and the fire turned on. The firing continues for about 48 hours to a degree of about 239 degs. F. It takes about 40 hours for the kiln to cool sufficiently for the men to go back into it to bring the ware out. It is then emptied by "kiln-drawers," who take the ware out of the saggars and into the bisque warehouse, where women brush off the sand and select it.

It is now ready for the trademark to be stamped upon the bottom. It is next dipped into the glaze, which is a very white liquid. This dry, it is then placed in saggars upon clay "pins" to keep them from touching each other. It is placed in the kiln, known as glost kiln, and fired to about 225 degs. F., and left there about 34 hours. It is then cooled and taken from the kiln into the glost warehouse, selected and placed in bins, after which orders are taken and it is shipped, some being decorated as per order, and some sold as white ware.



# Our Customers Say

BRIDGE PLANT  
PLEASANTON, CLACKAMAS COUNTY  
SAN JOSE, SANTA CLARA COUNTY  
GREENSBORO, WASHINGTON COUNTY

TELEPHONES: (San Francisco) 1770  
(Oakland) 88

NOTES  
ALL CONTRACTS AND AGREEMENTS SUBJECT  
TO DELAY CAUSED BY STRIKE, LOCKOUTS,  
AND A. J. JOHNSON'S AND OTHERS SERVING  
OUR INTERESTS.

## Remillard Brick Company

MAIN OFFICE, 888 PEARSON BUILDING  
BRANCH OFFICE, FIRST AND CLAY STS., OAKLAND, CAL.  
COMMON STOCK AND CLINKER BRICK  
SAN FRANCISCO Sept. 25th, 1930.

Arnold-Creager Co.  
New London, Ohio.

Gentlemen:

Your letter of August 12th received,  
and we wish to apologize for the delay in answering.

In reply to your request will state that the 43 3/4 ft  
Red Brick Machine purchased from you the latter part of 1916, has been  
in use almost continuously, and has given very good satisfaction.

Having recognized the advantage of this machine over  
the old style brick making machines, on account of its labor saving  
device etc., we purchased the second machine from you during 1919, for  
the purpose of enlarging our plant. We are now turning out about  
90,000 brick per day of A1 quality, and by the use of these machines  
feel that we are progressing with the times.

.....

With further reference to the above wish to state that the  
first machine purchased seems to give the best satisfaction, on account  
of some later improvements.

In conclusion would like to make inquiry if there is any  
attachment that can be connected with these machines so that they could be  
used in the manufacture of hollow tile?

We have not as yet received the last lot of molds, although  
we received your notice of having shipped them.

Yours Resp.  
Remillard Co.  
*Albert C. Buell*

The "Arnold-Creager" S. S. S. Special Automatic Brick Machine pays for itself in a short time.

Prominent Brick Manufacturers from the North, South, East and West will tell you how well satisfied they are with our Material, Workmanship and Service. This issue carries a message from the West, the next issue from the North.

We specialize in the manufacture of "Arnold-Creager" and "Martin" Brick Machinery and Supplies.

Brick Machines  
Pug Mills  
Winding Drums  
Granulators  
Disintegrators

Crushers  
Mold Sanders

Pipe Rack Dryers  
Cable Conveyors  
Rotary Dryers  
Sand Dryers  
Sand Grinders and  
Sifters

Transfer Cars  
Dry Brick Cars

Molds  
Barrows  
Trucks  
Tanks  
Stacks

Kiln Irons  
Represses

# Lancaster Iron Works Inc.

## Lancaster Pa.

Successors to  
The Arnold-Creager Co.  
New London, Ohio  
Originated 1877

## Brick Machinery Department

Jas. P. Martin, Mgr.

Manufacturers of  
"Martin" Brick Machinery  
Lancaster, Pa.  
Originated 1858

Mention THE CLAY-WORKER.



Written for THE CLAY-WORKER.

## PACIFIC COAST NEWS.



**B**UILDING operations in San Francisco, Oakland and in most of the smaller towns and cities in that part of the state are almost at a standstill as they have been for the past few weeks with a consequent dull period confronting the brick manufacturers and material men in Northern California. These conditions are due to labor controversies mentioned in previous issues. Throughout the industry, however, the most optimistic opinions prevail as to the probable short duration of the trouble, the opinion being expressed by most everyone that the labor trouble will be settled within the next week or two and operations start again on a normal scale.

Nothing is hampering the activity in the southern part of the state, including the city of Los Angeles, where the building material men are busy supplying clay products for the new construction. Terra cotta is selling in larger quantities during the present building tie-up in the northern part of the state than perhaps any other material.

While the brick and material yards in southern California are kept busy new clay industries are continually being established and others planning to move there in order to take advantage of the large clay deposits of a varied nature in the vicinity.

The latest contemplated establishment of a plant in Southern California is that of the Haviland China Company, large French concern. The new tariff on foreign made chinaware and the abundance of good clay deposits are said to be responsible for plans of this concern to locate near Los Angeles. As far as is known nothing in this respect is certain yet, but it is known that a representative of the con-

cern, H. Henjes, visited the deposits early in June this summer and sent direct to Theodore Haviland, the company head in France, a 500 pound clay sample.

The Pacific Porcelain Ware Co. with three plants at Richmond, near San Francisco, has, according to announcement of officials, orders booked ahead so that these plants can be operated at full capacity as they are at present for the next two years at least. This will necessitate, it is said, enlargements of a substantial nature on which work will commence soon. It is thought here that very few other porcelain ware plants, if any, in other parts of the country are operating to capacity at the present time. Orders from the Orient total \$8,000,000, it is said.

Operations on the new plant of the Empire China Co. at Burbank are nearing completion. Prominent men in the industry say it will be the most modern and efficient chinaware pottery plant in the United States. Machinery is being installed and a temporary model and mould room has been started. The first two of three biscuit kilns are being set up and foundations have been laid for four glaze kilns.

To stimulate building operations a reduction of \$2 per thousand for building brick to be used on new jobs has been announced by the Craycroft-McKnight Brick Co. of Fresno. The brickmasons' union there agreed to a proposal of the brick concern that wages be reduced along with the price of brick. It is thought that with the reduction in both labor and material many building operations which have been held up in Fresno because of high prices will commence at once.

Fifty thousand brick a day is the capacity of the Douglas Brick and Tile Co. plant at Elfrida, Arizona, which recently commenced operations. Modern machinery has been installed and plenty of clay is available. The plant will not for the present, however, operate to capacity because of a poor market.



## WHICH METHOD SHALL YOU USE?

### ARE YOU OPEN TO CONVICTION?

Do you believe Progress has been made in handling various materials?  
How do you handle brick?

What do you think of this? One two-ton truck delivering 10,000 brick over country roads, a round trip distance of  $9\frac{1}{2}$  miles per day?

The "FONTAINE DEMOUNTABLE TRUCK BODIES" handle brick or similar material without danger of breaking or chipping and yet cut cost of labor in half and keep the truck always on the move. Why not enquire?

**The American Truck Body Co., Inc., Martinsville, Va.**

Mention THE CLAY-WORKER.



California brick manufacturers in the southern part of the state are preparing to start a large and "noisy" campaign in connection with the "better home movement" and construction of better homes through the use of face brick will be widely advertised, commencing this fall. Los Angeles architects and builders plan to co-operate to the fullest extent with the national organization of face brick manufacturers in disseminating informative literature, newspaper advertising and in providing brick exhibits of a permanent nature. Such co-operation as has already been made has resulted, say many architects and builders, in a much larger demand during the present year for heavier grades of brick than formerly.

The Los Angeles Pressed Brick Co. has prepared figures which show that Los Angeles made brick is being exported in ever increasing quantities. Permits in Los Angeles and other cities throughout California reveal the greater popularity of brick over frame dwellings and over concrete for business structures.

An elaborate and attractive face brick and tile products display for exhibition permanently will shortly be opened to the public by the Los Angeles Pressed Brick Co. at Broadway and Fifth streets, Los Angeles, in the Metropolitan building. This is to be the first of a number of such exhibits planned as part of the publicity campaign to be carried on.

A new company has been organized to work clay deposits near Indio and supply the increasing market for clay building products in the Imperial and Coachella valleys. The concern will be known as the Interlocking Tile and Sewer Pipe Co., with a capital of \$250,000. At a preliminary meeting the following officers were elected: J. A. Gordon, president; J. A. Nelson, vice-president; J. P. McNally, secretary; J. Win Wilson, treasurer.

Experts have pronounced the clay deposits owned by the company as excellent. It is hoped by officials that construction of the plant in Indio will be started by September. Tile, drain pipe and pressed brick will be the specialties.

About one hundred and fifty workmen from Ohio are expected to arrive in Santa Clara, California, beginning early in July, to commence work at the Homer Knowles pottery there. Plaster for making moulds was to have been ready then. The corner stone for the plant was laid June 9 with elaborate ceremonies, a parade and speeches by prominent officials, including Congressman Julius H. Kahn. Work is to be rushed to completion and operations will commence about the first week in September, according to present plans.

The California Pottery Co. plant in Merced will soon commence active manufacturing and enough orders are on hand to keep the first unit busy for eight months, according to E. A. Forde, general manager. The Yosemite National Park, near Merced, has ordered a consignment of 32 cars of drain tile.

San Francisco, Cal.

SUNSET.

Because of the proven value and the desire for time to prepare, the date has already been set for the next National Exposition of the Chemical Industries. It is to be held the week of September 12, 1921, in the Eighth Coast Artillery Armory, New York. The permanent address of the organization is 480 Lexington Ave., New York.

H. S. Renkert was reelected president of the Metropolitan Paving Brick Company, Canton, Ohio, at the annual meeting recently of the stockholders. C. W. Keplinger is chairman of the board; O. W. Renkert, vice president and general manager; C. C. Blair, vice president and sales manager; J. G. Barbour, secretary and treasurer and R. B. Keplinger, assistant general manager.

## Anderson Brick Conveyor System

### SAVES

**\$9 to \$15 per day**

**\$54 to \$90 per week**

**\$215 to \$360 per month**

**It's worth investigating**

**Write for catalog  
and long list of  
Satisfied Users**

**"We Deliver the Goods"**



The Conveyor Makes a Turn Without Difficulty. Thus the Brick Are Fed Into Any Section.

Pat. May 2d, 1911

## Marinette Iron Works

**Chas. J. Anderson & Son, Proprietors.**

**Marinette, Wisconsin**

Mention THE CLAY-WORKER.



## BRICKMAKING IN SOUTH AMERICA.

(Continued from page 30.)

the bricks throughout, the temperature is again raised and held until the bricks have gained the desired characteristics. The kiln is then permitted to cool off, the fire boxes and openings filled with fire clay paste, and the flues closed partially to prevent the cold air from striking the bricks and cracking them. When sufficiently cooled, the bricks are removed and the kiln then refilled. From the time the heat has reached a dull red glow the gases passing through the chimney from a single kiln are obviously of a high temperature. But this heat is then wasted. To utilize this heat by applying it to other kilns of brick which are in an earlier stage of burning and to augment this heat by that from cooling kilns has been the aim of many expert ceramic engineers.

This effort led to the invention of the continuous kiln, which is essentially a series of single kilns built side by side with openings in the partition walls for the transmission of the heat from one to another. The standard type of continuous kiln involves two parallel rows of kilns placed side to side with or without connecting kilns at each end of the rows, and containing twelve or more chambers. It is important that the length of these kilns be great enough to permit the completion of the burning operation together with the other processes involved, i. e., cooling, emptying and refilling before the fire arrives again at a given chamber, otherwise the heat will have to be wasted.

In a kiln of eighteen chambers, for example, with a minimum inside length of 270 ft., the results are satisfactory if all the parts of the kiln are kept working to capacity. An uninterrupted progression of burning makes for the highest fuel economy.

In continuous kilns the advanced practice is to use gas for fuel—natural, or from oil or coal. But with some modification, direct wood or coal firing is practical. The working of an eighteen chamber continuous gas burning kiln constructed in parallel rows in which chamber No. 1 is opposite chamber No. 18 and chamber No. 9 opposite No. 10, follows this program: Number 1 is empty and ready to be refilled; Nos. 2, 3, 4 are being emptied and Nos. 5 and 6 are cooling off; gas is fed to No. 7 through fire boxes or "bag" walls built into the walls between the kilns, so that this chamber now burns at its highest temperature and when finished the final heat will be raised in No. 8 which is almost ready for the final burning; No. 9 is being raised to a bright red heat after having burned out all carbonaceous matter; No. 10 is at a dull red heat in the process of burning up this matter, and eliminating the last bit of steam; Nos. 11 and 12 are being raised from their first water-smoking period; Nos. 13 and 14 are water smoking, No. 15 is just ready to have the initial heat admitted from No. 14, and the last three chambers are being set. In some instances the heat from the cooling kilns is transferred by cross flues to the chambers whose temperatures are to be raised, thus complementing the heat from the chamber actually under fire.

The heat in Nos. 4, 5 and 6 rises from the temperature at which the bricks can be handled to about 1000 degrees centigrade. No. 7 is 1000 degrees centigrade more or less depending on the clay. No. 8 about 1000 degrees, No. 9 above 900 degrees centigrade, No. 10 is 900 degrees centigrade and less, and Nos. 11, 12, 13 and 14 from about 900 degrees to 120 degrees centigrade. In any of the chambers immediately ahead of that being fired, gas may also be supplied if greater heat is required.

To accelerate the travel of the fire from kiln to kiln

## SCUMMING AND EFFLORESCENCE

BY

ELLIS LOVEJOY, E. M.

This is the finest treatise on the subject ever written. Every angle of the cause and best method of overcoming the scumming and efflorescence on brick is given in detail.

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a fan is often introduced. In some of the longer continuous kilns, the fire travels as much as 8 or even 10 ft. per hour, with an extraordinary saving in fuel. Although the heat may travel at this rapid rate the result may not be satisfactory if the chambers are not numerous and long enough to set them so far ahead as to afford sufficient time for thorough water-smoking and the burning out of all carbonaceous matter and the oxidizing of the iron compound. This length obviates the danger of cracking the bricks by affording a more gradual raising of the temperature.

#### Face Bricks.

Where it is desired to burn bricks of superior quality and color for facing purposes it is well to remember:

1. That no flame or ashes of the fuel should come into contact with the bricks unless so-called "flash" bricks are desired.
2. Bricks should be heated above the temperature of boiling water before coming into contact with the gases from burning fuel.
3. Sufficient air should be supplied for contact with the bricks.

The chief advances made by the development of machinery and modern methods of drying and burning—whether for fine quality face brick or building brick—have resulted in a more beautiful product of more accurate shape, greater strength, uniformity of color, and above all a lower manufacturing cost.

And when it is considered that bricks made by modern methods will outlast any possible use, the value of the application of modern engineering skill to the design of brick machines is apparent, and the beautiful textures in rough face bricks, especially the so-called "matt" and "rug" bricks burned in a variety of colors, afford the architect a medium

which at once inspires his imagination and permits the use of his best efforts.

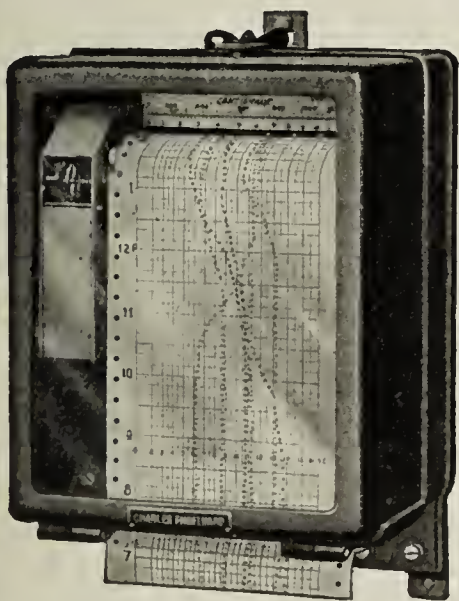
#### THE FIVE STEPS IN CLAY BURNING.

The clayworking industry as a whole seems to be cognizant of the fact that there are five stages or feature periods in the process of burning clay ware, but perhaps many are not clearly impressed with the idea that these are each separate and distinct steps and should be treated accordingly.

The object of burning any clay product, or rather of subjecting it to treatment by fire, is to make the body permanent in form and resistant to the destructive agents of nature, such as fire, water, decay, freezing and crumbling, and so on. The accomplishment of this permanency is attained, first, by making the clay pliant, usually through the addition of moisture, until it can be molded or formed into the shapes desired. Then as soon as it is dried and hardened sufficiently to be put in kilns and subject to treatment by fire it is arranged accordingly, and the firing should include separation into five stages:

1. Smoking, or water smoking.
2. Firing.
3. Softening.
4. Soaking.
5. Cooling or hardening.

Most clayworkers of experience will recognize what each of these terms imply and the stage and process that they mark in the order named. What we need to do, however, is to get the habit of regarding them more as distinct and separate steps in the process, each of which must be studied carefully and arrangements made for governing the treatment in each step according to the requirements of the clay and the product being made.



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In the early stages of the pyrometer business most of the instruments sold were indicators.

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It will show you what goes on at the plant while you are away. Skilled burners like it because it shows the management that they are on the job.

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And just a word as to upkeep:

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AUGUST, 1921

# THE CLAY-WORKER



HOME MADE BRICK ARCHITECTURE: A Novel Use of Paving Brick at the Entrance to the Mayer Estate, Bridgeville, Pa., C. P. Mayer and the Mayer Mansion in the Background. (See page 125.)

Published Monthly by  
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came acute, he launched into an expensive coal mining enterprise and as is his habit, soon became a factor in that line of industry. By the use of steam shovels and other up-to-date methods of mining that afforded a maximum capacity at a minimum cost of production, the Mayer Coal Company mined and marketed vast quantities of that essential.

With the end of the war, Mr. Mayer grew ambitious and entered a new field of endeavor—that of aviation. With characteristic energy he engaged in this modern science, purchased a Curtiss plane and with the assistance of an experienced operator, was soon making daily flights. Fully impressed with the idea that it was the future method of locomotion and hence a good business to tie to, he established an aviation field a short distance from his residence, built a hangar, incorporated a company under the title of the Mayer Air Craft Corporation and in this new field of endeavor, is achieving what would have taken most men years to accomplish.

#### A Great National Aviation Field.

There is on his wide estate, near the town of Bridgeville, a natural amphitheater, which with but little change affords a remarkable aviation field. Here he is now operating three planes daily, carrying passengers on short or long flights, as may be preferred. These facilities will be enlarged, as the needs of the business requires, and it is a rapidly growing enterprise.

It was the writer's pleasure recently to spend a day with Mr. Mayer and to enjoy the rare treat of a brief flight, an experience long desired, and very much enjoyed. A longer flight would have been enjoyed proportionately, but the time was limited because there were others waiting their turn to fly above the clouds. The three big Mayer planes are kept busy the whole day long, throngs coming from all directions. Many were satisfied to view the flying machines, and watch the more adventurous ones make the flights.

The writer's sailing companion was Mrs. Joseph Buckley. It was her first trip skyward, too, but on landing, she expressed the desire to play a return engagement, which she did a few days later, making the second ascension with her better half. The accompanying views show Mr. and Mrs. Buckley as they returned to terra firma after a flight that took them some 2,000 feet in the air.

Casper Mayer has been studying the airship to a good purpose and has under way certain mechanical improvements that will stabilize the airship and make it a safe means of transportation for every-day use. Ere long he and his sons, who are associated with him in the aviation enterprise, will produce an improved airship and then establish a daily service for passengers and express between Pittsburgh and New York. The plan contemplates breakfast in Pittsburgh, luncheon in New York, and dinner back in Pittsburgh. They contemplate operating a ten-passenger aeroplane flying daily between Pittsburgh and Atlantic Coast points.

#### An Improved Hydro-Plane.

The improved Mayer plane, which is nearing completion, is different from all other proposed passenger planes in that it will be able to land in and ascend from the heart of a city, and that it will be virtually immune to fire and accidents.

The ship will be a hybrid mixture of hydro-plane and straight land plane. If convenient, a frame is released from the body of the car and landing on the ground is made possible.

If this passenger plane proves popular, five more will immediately be contracted for by the corporation, and air lines to other cities will be established.

The corporation is composed of C. P. Mayer and members of his family. One year ago it had never occurred to these men that they would ever engage in any business connected

with the aeroplane industry. Now their company is one of the largest in this part of the country and it is planned to make it the largest in the world. They have three planes in operation now, three large flying fields, an up-to-date hangar, and construction and machine shops in the state of erection, which will cost thousands of dollars. The large passenger plane will cost \$38,000.

Once interested in aviation "Casper" studied it from every angle, traveled about the country and got many valuable pointers from other aviation enthusiasts. In all the planes he saw, there were two great drawbacks; one was they could not land in the city, making it necessary for passengers to waste an hour or two in getting to the plane. It was apparent to him that aviation could not be commercially successful under such conditions, so he set about devising a machine with stabilizers and safety features which would enable the operator to land the machine in a comparatively small open space. This is accomplished in part by using two engines which will be a safeguard against spills and there are other devices for the prevention of fire, making the airship as safe or safer than the ordinary automobile. It is figured the planes will travel eighty miles an hour with one engine in operation and one hundred and thirty miles an hour with both engines going.

The compartment for the passengers will be large enough for a tall man to stand upright. Beside the ten passengers there will be room for two pilots and baggage. The planes will be so constructed they will be fairly immune from weather conditions, so daily trips may be made regularly, regardless of wind or rain. The pilots in charge of the company's flying are all war aviators, with unusual records. They are Lieutenants Bob Drake, H. H. Blanchard and Elmer Scheiffer, and all three are enthusiastic over the prospect of a regular passenger service to New York City.

#### An Odd Use of Paving Brick.

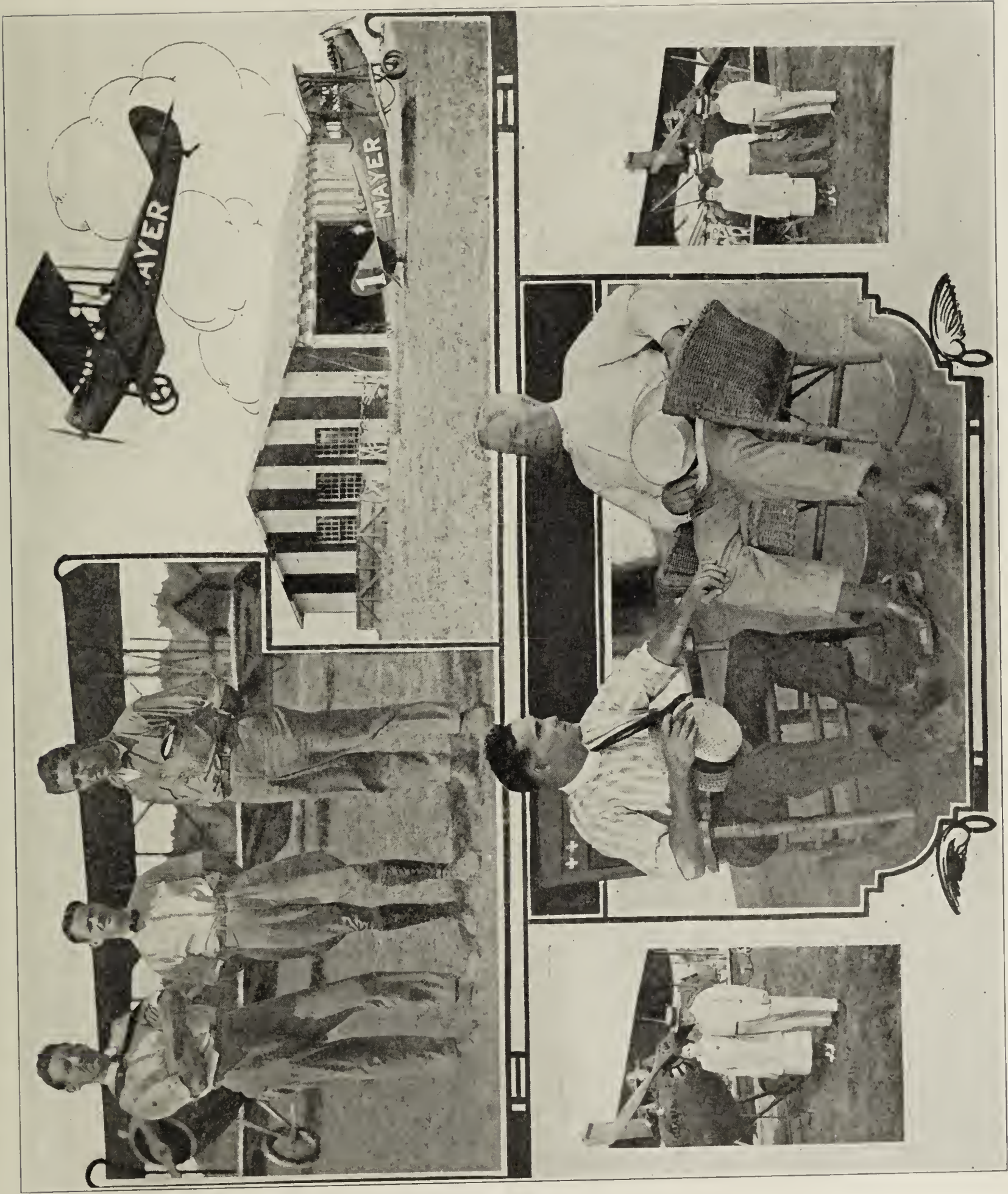
Those who visit the Mayer aviation field cannot fail to take note of the fact that Mayer is first a brick manufacturer for the entrance to his home grounds is adorned with an unique but very attractive bit of brick construction which attracts the eye and challenges the admiration of every passerby. The brick used are refuse brick from the rattler; that is, brick which have passed the rattler test, as a result of which the corners and edges were worn off, giving the brick a rounded face. They are dark red impervious brick, and the wall as constructed is really artistic. The walk from the entrance to the residence is paved with the same dark red brick as are the steps to the wide porch which is floored with tile of the same shade. All in all a fine and pretty color scheme which makes a pleasant impression which is increased by the warm hospitality which awaits the visitor to the Mayer mansion.

Before going up, the N. B. M. A. visitors enjoyed a series of other outdoor sports, such as croquet and strolls through the Mayer rose gardens which are very beautiful and one of Casper's pet hobbies. There is an old saying, "Once a brick-maker, always a brickmaker," and we are sure it will hold true with Casper Mayer, for he is steadfast in all his undertakings. The brick business was his first love, as an industry, and no matter how great the aviation enterprise may grow he will not forsake the clay craft. Those who may happen in Pittsburgh, particularly members of the National Brick Manufacturers' Association, if they will run out to Bridgeville, will be cordially welcomed and will view one of the finest natural aviation fields in the country.

It is easy enough for people to overlook our good points, but if there are any bad ones or weak spots there is a disposition to stop and point them out.



THE MAYER AIR CRAFT CORPORATION PLANES AND THE EXPERT PILOTS.



C. P. Mayer and His Son, Charles M. Mayer. At the Sides, Mr. and Mrs. Joseph L. Buckley, Pittsburgh, Pa.



## BUTTONHOLE TALKS

By Gates.

Clothes May Not Make the Man But They Help Some.

CLOTHES DO make a difference in a man, Gates, I don't care what anyone says to the contrary. They affect the outside appearance, and they affect him internally. Last week I had to take an unexpected trip, had to start hurriedly. It occurred to me that the suit of clothes I was wearing were not quite the proper thing, and, as there was no time to get a suit made, it was up to me to hustle over to the ready made shop and get a new suit. They fitted me out and I was proud as I went out on the street. Every one that looked at me was, I thought, admiring my clothes. Really, I said to myself, there is no call for a man going wasting money on a tailor when he can get such clothes as these ready made. I don't know when I have been prouder or more satisfied with a bargain and I just wanted people to look at me and admire my clothes.



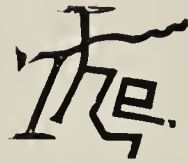
"Comfortably settled in the smoking compartment of the Pullman in the evening, speeding on the night's run, I got to talking with a very prosperous and intelligent traveler, and somehow the conversation got on the subject of proper clothing. After quite a general discussion, and full of pride at my new purchase, I remarked to him that I saw no use paying a high price to a tailor for a suit made to order when such good garments could be bought for so much less ready made, adding, as I stood up that he might the better take it in, that I didn't mind telling him that this suit I had on was a ready made suit.

"Just glancing over at me he said, 'Good Lord, man, you don't have to tell anyone that; the suit itself speaks loud enough, it just yells it at the public.' Then he deliberately proceeded to show me fifty-seven different things about it that told the story. When he had finished, and indeed long before he had finished, my pride and self satisfaction were all gone. The suit was the same I had been so proud of, that I thought fitted me so well until he took it up, but it no longer was any good to me. If anyone looked at me after that I curled up and dodged. Whereas before I had swelled out with pride, thinking they were admiring, now I winced knowing they were taking my measure as a cheap skate. Until I ran into him I was a satisfied man. I was satisfied and content with what I had. This condition he changed absolutely. Never again could I take comfort with that suit of clothes.

"Anyway clothes, while intended to protect you and keep you comfortable and incidentally to shield your personal charms from the public gaze, still are only good while you are satisfied and content with them. If you don't like them and feel out of place in them you might just as comfortably wrap your form in a blanket and be done with it. You couldn't be comfortable at an evening banquet attired in an outing suit and you would not be happy going fishing in full dress. The punishment must fit the crime. I am no haughty aristocrat and I had an idea that I was above caring or worrying about dress, but that man finished me as far as that suit is concerned. I have picked out my tailor and it's up to him from

now on. It's his business to keep posted and he will have all responsibility as far as I am concerned. I have given the suit to a tramp and to a tramp that it won't fit as well as it did me."

## DISTRICT OF COLUMBIA BRICKMAKERS REPORT BIG INCREASE IN SALES.



BRICK TRADE in this section has taken a big jump within the past three months, and practically all of the plants are working up to capacity. The rapid advance in building operations since May 1 has given the brick manufacturers about all the business they can handle, and the demand promises to keep up well into the fall, judging by present contracts now in work.

West Bros. Brick Co., one of the largest concerns making common brick in the District, report a big run of trade. "We have no complaint to make," said L. Perry West to The Clay-Worker representative, "of present trade conditions. In fact we are in the midst of one of the busiest seasons we have had in years. The month of June, just passed, was one of the biggest months we have ever had. The advance in trade has been brought about mostly by the general resumption in building operations, especially in large residential contracts.

"We are selling common brick at \$19 and \$20—a slight reduction from the prices which obtained early in the year—but do not look for any further price lowering. If there is any change it will be an advance, but we are not planning for any such increase at this time. We look for good business up to the time snow flies."

Inquiries of other manufacturers here confirm Mr. West's statement that the present and immediate future will see busy times for the brick producers, several predicting that the "slump" days have gone never to return.

The Department of Commerce reports that in the eleven months ended on May 31, this year, exports of all kinds of brick showed an immense increase over the same period ended May 31, 1920. Furthermore, shipments of United States brick abroad at this time indicate that the foreign sales for the present calendar year will far more than double those for 1920.

Building brick exported to all countries in the eleven months ended May 31, this year, totalled \$477,904, as against \$300,413 in the eleven months ended May 31, 1920, and \$104,280 in the eleven months ended May 31, 1919. Fire brick shipped abroad in the eleven months ended the last of May of this year were valued at \$4,154,846, where the total for the same period ended May 31, 1920, was \$2,532,660.

The Bureau of Foreign and Domestic Commerce reports having received a communication from an engineering firm in France requesting that it be placed in touch with United States manufacturers of machinery for brick making, also equipment for producing paving brick. Correspondence should be in French, if possible. All details and information in reference to the matter will be furnished our manufacturers who may be interested if they will address Bureau of Foreign and Domestic Commerce, mentioning inquiry number 34,925.

A request has also been received from a prominent architect in a city in Chile, South America, who desires to buy building brick, and who asks to be placed in communication with American brick manufacturers. The bureau will furnish all details if inquiry number 34,860 be mentioned when requesting same.

H. B. Tribby and W. Elbert Dickinson have formed a co-partnership here for the manufacture and sale of brick, with a suite of offices in the Southern Building. Both are well known in the building trade of Washington, the former having



been a prominent contractor for many years. As a special sale feature to inaugurate the business, the firm is making a big drive on common brick at \$14 per 1,000 for any quantity.

C. K. Hammond of Cleveland, Ohio, has been making a survey of territory just north of Washington with a view of locating a plant for the manufacture of clay products, such

as building brick, sewer tile and pottery. In a statement Mr. Hammond says that he is here at the request of several Cleveland capitalists who wish to establish such a plant. It would cover about six acres and would employ several hundred men. It is understood that he has not as yet reached a definite decision in the matter. ALTHOMAR.

## CLAY PRODUCTS IN 1920.

Output Reaches Highest Value in 1920 According to United States Geological Survey.

THE VALUE OF the clay products marketed in the United States in 1920 is estimated by Jefferson Middleton, of the United States Geological Survey, Department of the Interior, at the enormous sum of \$364,220,000, by far the highest recorded value in this or any other country. This amount represents an increase of \$103,430,000 as compared with 1919, of about \$143,647,000 as compared with 1918, and of nearly \$200,000,000 as compared with 1910. The greater part of this increase is due to the increased cost of production, which reached its peak in 1920, though the quantities of many clay products were greater in 1920 than in 1919.

The value of every kind of clay product except fancy or ornamental brick, a very minor product, increased in 1920 as compared with 1919, and the quantity of every kind except face brick and vitrified brick or block also increased. The decreases in these two kinds were comparatively small.

The clayworking industries experienced no general or prolonged strikes in 1920, though sporadic minor strikes occurred in the brickmaking and pottery industries, which were also affected more or less adversely by strikes in the building industries, but the high cost of the product, the coal and car shortage, (especially early in the year), embargoes, and high

and increasing freight rates were the greater handicaps. Some of these conditions improved throughout the year, but the high freight rates seem to be the greatest obstacle to the larger development of the brick industry, and unless relief is granted this industry may again become only local. This change may not, however, be an unmixed evil, as it may lead to the establishment of plants near the points of consumption and thus reduce the cost to the consumer, which is the crying need of the times.

The housing conditions improved but little during the year, owing chiefly to the high cost of construction, which accounts largely for the small increase in the output of the principal clay structural materials. The cost and consequently the selling price of these materials rose rapidly in 1919 and reached their peak in the summer of 1920, after which there was a decline, but at the end of the year prices were far above normal, though still declining.

### Increase in Average Price.

The average price per unit in all kinds of ware except vitrified brick increased considerably more in 1920 than in 1919. Common brick increased in price 35 per cent.; face brick, 34

Clay Products Marketed in the United States in 1919 and 1920.

| Product                         | 1919<br>(estimated) | 1920<br>(estimated) | Approximate increase<br>or decrease in 1920 |           |
|---------------------------------|---------------------|---------------------|---------------------------------------------|-----------|
|                                 |                     |                     | Quantity or value                           | Per cent. |
| Common brick:                   |                     |                     |                                             |           |
| Quantity (thousands) .....      | 4,552,667           | 4,709,000           | + 156,333                                   | + 3       |
| Value .....                     | \$58,220,000        | \$81,330,000        | +\$23,110,000                               | +40       |
| Average price per thousand..... | \$12.79             | \$17.27             | + \$4.84                                    | +35       |
| Face brick:                     |                     |                     |                                             |           |
| Quantity (thousands) .....      | 778,190             | 728,000             | — 50,190                                    | — 6       |
| Value .....                     | \$15,240,000        | \$19,050,000        | + \$3,810,000                               | +25       |
| Average price per thousand..... | \$19.58             | \$26.18             | + \$6.60                                    | +34       |
| Enameled brick .....            | \$640,000           | \$820,000           | + \$180,000                                 | +28       |
| Fancy or ornamental brick.....  | \$40,000            | \$30,000            | — \$10,000                                  | —25       |
| Hollow building tile or block:  |                     |                     |                                             |           |
| Quantity (tons) .....           | 2,310,450           | 2,457,000           | + 146,550                                   | + 6       |
| Value .....                     | \$16,620,000        | \$25,900,000        | + \$9,280,000                               | +56       |
| Average price per ton.....      | \$7.19              | \$10.54             | + \$3.35                                    | +47       |
| Tile (not drain) .....          | \$7,250,000         | \$10,930,000        | + \$3,680,000                               | +51       |
| Architectural terra cotta ..... | \$4,840,000         | \$9,480,000         | + \$4,640,000                               | +96       |
| Vitrified brick or block:       |                     |                     |                                             |           |
| Quantity (thousands) .....      | 485,139             | 442,000             | — 43,139                                    | — 9       |
| Value .....                     | \$11,210,000        | \$12,020,000        | + \$810,000                                 | + 7       |
| Average price per thousand..... | \$23.11             | \$27.17             | + \$4.06                                    | +18       |
| Sewer pipe .....                | \$16,170,000        | \$22,240,000        | + \$6,070,000                               | +38       |
| Drain tile .....                | \$10,420,000        | \$13,080,000        | + \$2,660,000                               | +26       |
| Fire brick:                     |                     |                     |                                             |           |
| Quantity (thousands) .....      | 943,942             | 1,131,000           | + 187,058                                   | +20       |
| Value .....                     | \$36,170,000        | \$52,750,000        | +\$16,580,000                               | +46       |
| Average price per thousand..... | \$38.32             | \$46.64             | + \$8.32                                    | +22       |
| Stove lining .....              | \$730,000           | \$890,000           | + \$160,000                                 | +22       |
| Miscellaneous .....             | \$7,100,000         | \$10,000,000        | + \$2,900,000                               | +41       |
| Total brick and tile.....       | \$184,650,000       | \$258,520,000       | +\$73,870,000                               | +40       |
| Total pottery .....             | 76,140,000          | 105,700,000         | + 29,560,000                                | +39       |
|                                 | 260,790,000         | 364,220,000         | +103,430,000                                | +40       |



per cent.; hollow building tile, 47 per cent.; vitrified brick or block, 18 per cent.; and fire brick, 22 per cent. The average increase in price in all these wares from 1916 to 1920 was 124 per cent.

#### Relative Values of Different Products.

The structural clay products as a whole (mainly brick and tile) produced in 1920 were valued at \$147,540,000, or 57 per cent. of the total of all brick and tile products, as compared with \$102,850,000 in 1919 and \$66,209,300 in 1918. Engineering products (vitrified brick, sewer pipe, and drain tile) rose in value from \$37,800,000 in 1919 to \$47,340,000 in 1920, or 18 per cent. of the total brick and tile products. Refractories (fire brick and stove lining) increased in value from \$36,900,000 in 1919 to \$53,640,000, or 21 per cent. of the total. Miscellaneous products constituted 4 per cent. of the total value in 1920.

#### Increase in Common Brick.

Common brick was the leading product in quantity and value in 1920, as it has always been except in 1918, when, on account of war restrictions and the unusual demand for fire brick, common brick was relegated to second place in value. The output in 1920 was 4,709,000,000 brick, an increase of 156,333,000 brick over the output in 1919. Notwithstanding this gain the output of 1920 was the smallest recorded by the Survey except the output of 1919 and that of 1918 and was less than one-half as large as the maximum, which was in 1906. The value of this product, \$81,330,000, was the highest recorded and represented an increase of \$23,110,000 over 1919. This was the largest gain recorded by a clay product in 1920. The average price per thousand in 1920, \$17.27, was also the highest recorded. In 1919 the average price was \$12.79.

#### Increase in Other Products.

Fire brick, the second product in value, showed the next largest increase—from \$36,170,000 in 1919, to \$52,750,000 in 1920—and incidentally reached its maximum value also. The average value per thousand, \$46.64 as compared with \$38.32 in 1919, was the highest recorded. The quantity of fire brick marketed in 1920 was 1,131,000,000 9-inch brick as compared with 943,942,000 in 1919.

Hollow building tile, the third product in value, which has been steadily gaining in use, rose in value from \$16,620,000 in 1919 to \$25,900,000 in 1920, an increase of \$9,280,000. The quantity of hollow tile marketed in 1920 was 2,457,000 tons, as compared with 2,310,450 tons in 1919. The average price per ton in 1920 was \$10.54 as compared with \$7.19 in 1919.

Sewer pipe, the fourth product in value of output, increased in value from \$16,170,000 in 1919 to \$22,240,000 in 1920. No estimate has been made of the tonnage of this output, but it seems probable that the increased value was due largely to a greater selling price.

Face brick, unlike other important products, showed a decrease in output from 778,190,000 brick in 1919 to 728,000,000 in 1920, but the value increased from \$15,240,000 to \$19,050,000 in 1920. The average price per thousand increased from \$19.58 to \$26.18.

Architectural terra cotta, valued at \$9,480,000 in 1920, showed the largest proportionate gain in 1920, 96 per cent., and reached its highest value.

#### TRENTON MANUFACTURER RUNNING PART TIME.

Business conditions in Trenton are rather slack and several of the plants are working but a few days a week. The Thomas Maddock's Sons Company, of Trenton, are understood to be working but four days a week. Several of the local rubber plants have closed down entirely.

#### TILE UNDERDRAINAGE HAS DONE AND IS DOING GOOD WORK.

**D**RAINAGE HAS done the work of reclaiming large areas of wet marshy land in the states of Ohio, Indiana, Michigan, Illinois, Iowa and other states, which were considered worthless or practically so by the "early settlers." Now these lands are the best for agricultural purposes. In the drainage of the wet lands in the states named, the general health of the country has been greatly benefitted. Fever and ague was common in every household in the fall and spring season, in the neighborhood of low lying lands, so common that this sickness was as much expected as the seasons of the year. Being underdrained, it is seldom that we hear of a case of billious fever or ague. The health of domestic animals has also greatly improved. It was very common for cattle and sheep to die from various diseases before drainage, the sickness probably resulting from bad water and wet feet. The sections of country referred to are now our best stock growing districts. The residents are better in health and wealth due to the beneficial effect of drainage.

But drainage has not been confined to low lying marshy land, but has extended to higher ground, including even hill land. The benefits have been so satisfactory to the practical husbandman that he has been constrained to advance in the work of drainage in order to obtain better remuneration for the labor and money already invested in his lands. Those who have practiced the underdrainage of their lands have been repaid such a large return in their increased productions, which are so abundant, that they know, without any very close figuring, that the money invested in drainage pays them a better percent than any investment they could otherwise make with it. Besides, the investment is permanent and will give, year after year, the increase of crop products for generations to come.

Another important factor in this connection is that the benefits of drainage have led to the study of the soil and its management. A husbandman having grown up on the farm, and used to the common methods of planting and cultivating crops on wet lands, may have little knowledge as to the character of his soil or its needs and capabilities, not because he is stupid or wanting in good sense, but rather from force of habit. Nothing has occurred in his past experience to lead him into the investigation of soil management, but seeing the benefits of drainage, it may be on a neighboring farm, he concludes to try it, thinking that the only principal reason why he should underdrain is to get rid of the excess water. But in getting rid of the water, he is so largely benefitted that the subject of land drainage becomes interesting to him, and he is led to study more carefully the effect. He hears or reads that the removal of surplus water is not the only benefit to the soil, true it is the procuring cause of other benefits. He is all attention, is ready to learn more, then the fact is brought to his mind that the circulation of air through soil is an important factor, that the upward flow of moisture from the deeper soil brings with it important elements of fertility and leaves them where important chemical changes and combinations are effected beneficial in feeding growing crops. Further on he learns of the increase of temperature of the drained soil, on account of which his seed germinates better, and the plants grow more vigorously. He knows from observation that it is true. Further he learns that by practical experience that the soil is more easily put into good condition, that it breaks up into much finer particles, that where soil is made fine crops do much better, and very sensibly he concludes that the soil should be made very fine to get the largest result from his labor which leads to better cultivation. So it is, step by step, he is led in the practice of underdrainage to learn more and more about his soil. The study of the soil opens up to his mind a broad and delightful field for study and observation, leading on to a higher intelligence.

The mind which is led by this simple process, it may be to search after knowledge, is quite ready to search out on other practical lines, becoming more active and vigorous and better fitted for success in life every way. From observation we have learned to place a high estimate upon those who have been draining extensively.



## TEACHING BRICKLAYING IN OHIO PUBLIC SCHOOLS

AT SPRINGFIELD, OHIO, they have put on two classes in bricklaying in connection with the high school course. The News of April 10, shows a picture of the class laying up a brick wall. This is an important matter to the brick industry and no better work could be done by the brick manufacturer than to secure the assistance of the manual training department of the local schools in putting on a bricklaying course. The big benefit would be to the building public and the benefit to the clayworkers would be worth while.

The accompanying photograph of Geo. E. McCord, Superintendent of the Public Schools of Springfield, will be a matter of considerable interest to readers of the American Clay Magazine as Mr. McCord was responsible for the inauguration of the bricklaying class at Springfield. Speaking of the work of the class Mr. McCord writes the American Clay Magazine as follows:

"There were twenty men enrolled in the bricklaying class.



Supt. Geo. E. McCord, Springfield, O.

The school was conducted four nights a week for twenty weeks. It was very successful. The men who were taking this instruction are now found doing this kind of work."

It will be seen by Mr. McCord's statement that the bricklaying class was not only a success but that the masons who were taught bricklaying are making good use of what they learned in this course in the public school of Springfield. These graduates are doing their share in solving the building problem and are doing even more as they are making it possible for the home owners to build the home of fire resisting material, thereby helping to eliminate fire losses.—American Clay Magazine.

### MACHINERY DIVISION CREATED

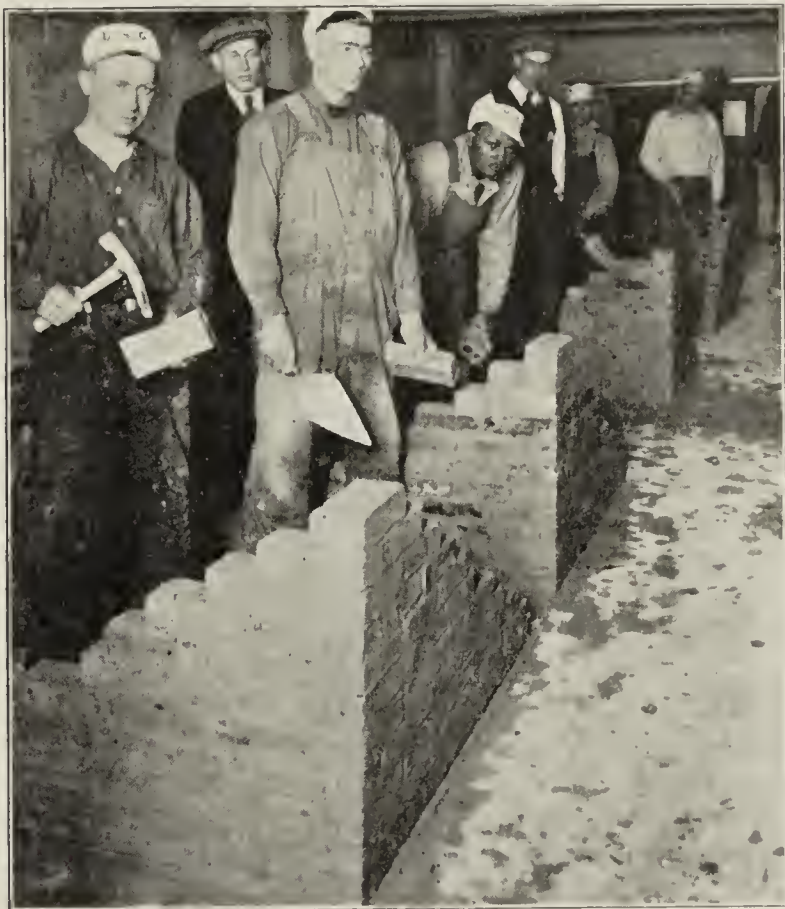
Congress recently passed an Export Industries Act with an appropriation for setting up about a dozen special divisions in the Department of Commerce at Washington to promote export trade. One of these of particular interest to the machinery people is the Heavy Machinery Export Division recently created with Walter H. Rastall, formerly of Dayton, Ohio, at its head. His business will be to co-operate with machinery people and help develop a bigger and better export trade. The indications seem favorable too for the rapid development of a much heavier export trade in machinery.

## EFFECT OF HIGH FREIGHT RATES ON PAVING BRICK INDUSTRY.

High freight rates have practically destroyed the paving brick manufacturing industry, James G. Barbour, secretary of the Metropolitan Paving Brick Manufacturing Co. told the Public Utilities Commission at a hearing at Columbus, Ohio, Friday.

Mr. Barbour told members of the commission that a few years ago, before the increase in the freight rates, his company frequently made large shipments of its products as far as 500 miles, but that now, on the high freight charged, practically all of the bricks sold by the company are shipped within a radius of 100 miles. He declared that the loss of the distant markets was not due to competitors securing the trade, as there are no competitors.

Mr. Barbour presented a number of exhibits which, he said, showed how the increase in freight rates since 1911 has restricted the sale and movement of the product of his company. During the seven years between 1911 and 1918,



Bricklaying Class Springfield, Ohio, Public Schools.

he said, his company shipped an average of 25,000,000 bricks outside the State each year, to 34,000,000 within the State. For the three years 1918 to 1920, he said, the sales dropped to an average of 5,000,000 a year and inside the State to 19,000,000 a year.

Mr. Barbour also gave a comparison of freight rates to total cost of road construction in various materials. At a rate of \$1.40 per ton for all commodities, he said, the freight cost in construction of one mile of brick paving, of \$2,800; one mile of asphalt, \$161; one mile of cement concrete, \$560; one mile of gravel and crushed stone, \$4,900.

### STRIKE INSURANCE

One of the new business ideas of the day which has taken on practical form is that of providing insurance against strikes and business losses incident to strikes. This will help some, but the right idea to follow is that of strike prevention, and we should follow it persistently until we attain the goal of proper legal protection against strikes.



## SUMMER MEETING A. C. S.

A Happy Holiday Enjoyed by the Ceramists in the Ohio and West Virginia Pottery District.  
The Inspection of Plants Prove Instructive and Enjoyable.



THE MIDSUMMER MEETING of the American Ceramic Society was held July 25th, 26th and 27th. Canton, Ohio, Hotel Courtland, was the initial meeting-place, and general headquarters. The three days were crowded with inspection tours of a number of the ceramic plants in and about Canton, Alliance, Sebring, East Liverpool, Ohio, and Newell, West Virginia.

Social features, with surprise stunts, enlivened the evenings' entertainments. There was a better attendance than was anticipated, fully a hundred and thirty ceramists were present during the three days of joyous reunions and educational excursions.

### Dueber Watch Case Factory.

Monday morning a crowd of about fifty left the Hotel Courtland, Canton, Ohio, on special cars for the Dueber Watch Case Manufacturing Company's plant. The entire morning was given over to the interesting trip through this immense factory, one portion of which is used for the manufacture of the works for watches, while the other half is devoted to the production of watch cases. Of particular interest to the ceramists was the placing of the enamel on the dials, the baking, the printing of the figures on the face of same, and the rebaking. Floor after floor was traversed by the visitors, there seeming to be no end to the departments devoted to detail work, such as the making of tiny screws, and other parts, and the assembling of same. The work was so exacting, the parts so small, and almost invisible to the naked eye that the workers of necessity used large magnifying glasses.

### A Visit to Bonnot Company's Plant.

After a light luncheon, the delegation journeyed to the busy factory of the Bonnot Company, where a line of heavy and large capacity machinery was being made, not only for the clay industry, but also the coal, cement, and other in-

dustries as well. Large machines in the experimental stage for grinding, pulverizing, and separating cement and bituminous materials, attracted the attention of the visitors, but the combined brick machines and pug mills, cutting tables, auger brick machines, hollow-ware machines, pans, represses, screens, elevators, disintegrators, crushers, winding drums, turntables and cars, were the most closely inspected. Mr. A. A. Oldham conducted the party through this plant.

### The Manufacture of Enameled Kitchen Ware.

From the Bonnot plant the delegates, now numbering about eighty, (many late arrivals joining the party after its start,) were taken by street-car to the plant of the Stanton Stamping and Enameling Company. Here Mr. R. T. Taylor, a director, acted as guide, and explained the various steps in the manufacture of the blue and grey enameled kitchen utensils made in this well-equipped factory, the capacity of which is 100,000 pieces per day, including stew and sauce pans, cups, dippers, and culinary vessels of a large variety and sorts. Hundreds of presses are used in pressing pieces of sheet steel into the raw forms, which are afterwards placed in other presses, where the pieces are either trimmed, edges rolled, or handles and spouts riveted on, just previous to their being placed in the pickling vats of sulphuric acid which removes the roughness of the surface, and prepares the piece for dipping in tanks of water to prevent oxidation just prior to the application of the enamel. Immediately after drying, the enameled ware is placed in large annealing furnaces, which, in about one minute's time, bake the enamel to the desired degree. Fourteen coal-fired furnaces are used. The large sorting and store-room contains 1,600 bins where ware is stored after it is properly inspected and wrapped. A visit to the slip-room, and other departments was made before the return to the hotel.

### A Delightful Banquet.

At seven o'clock the ceramists went by automobile over sixteen miles of excellent brick-paved roads to the Congress Lake Country Club, where a fine feast awaited them. Music was furnished by a special orchestra, and there was danc-



The Delegates to the A. C. S. Summer Meeting Grouped Beside the Continuous Kiln on the Plant of the Alliance Clay Products Company.



ing before and after the banquet. President Pence acted as toast-master, R. T. Stull, responded to the first toast in his usual happy manner, making a suitable introduction to the first stunt pulled off. Professor Binns had been promised a gift for his record of attendance, and was in a receptive mood, when a waiter brought through the crowded room an immense glass punch-bowl. However, the waiter stumbled and dropped the bowl on the hardwood floor, in front of the Professor, as per schedule. The stunt was cleverly done and produced a great laugh, and Professor Binns, standing amidst broken glass, responded in keeping with the occasion. Mr. Martin Anderson, vice-president of the Arlington (paint) Manufacturing Company, was the evening's only set speaker. His contribution was a large number of well-told stories on Norwegians and Swedes. Ross C. Purdy was called upon to explain the scope of his work as full time organizing secretary. The substance of his remarks was given in the July



Ire Sproat, Chairman of Entertainment Committee (No. 6) and Leon Shaw (No. 8), the Mutt and Jeff of the Delegation. The others in the Group Are (1) F. G. Lord; (2) F. H. Riddle; (3) R. C. Purdy; (4) R. Landrum; (5) F. K. Pence; (7) August Staudt; (9) C. H. Jones; (10) C. H. Stone.

Clay-Worker. After Mr. Purdy read his outlined plans, the waiters came in with trays loaded with steins, perforated with large holes around the upper portion of the vessel.

#### A Trick Stein.

The steins contained lemonade. Many endeavored to drink out of them, with the embarrassment resulting from a general outpouring of the fluid through the perforated portion. The correct manner of using was explained by Mr. Purdy, who held his finger over a hidden hole in the handle of the stein, and sucked the contents through the first hole on the right in the lip of the stein. It was a splendid job of casting, the handle being hollow, the passage running from the bottom of the stein, up the handle, and to the right on the lip of same. Each participant took his stein home with him—this stein was presented with the compliments of the Sebring Pottery Company, of which Ira Sproat, the chairman of the entertainment committee, is one of the leading lights.

#### Through Alliance Brick Company's Immense Plant.

Tuesday morning early, the ceramists journeyed over to Alliance, Ohio, where the rest of the morning was given over to an inspection tour of the Alliance Brick Company's new No. 2 plant, without question one of the finest brick plants in this country today. The proprietor, F. A. Hoiles, and W. D. Richardson, whose kiln was one of the principal features, acted as guides. The coal handling system, the compartment kiln, the clay preparation department and machinery

room, as well as every feature of the plant, gave ample evidence of the progressive, up-to-the-minute spirit of this concern. A complete write-up of this plant will appear in our September number.

The delegates also visited the plant of the Alliance Clay Products Company, which adjoins the other. Here was seen another very up-to-the-minute plant. This was described in The Clay-Worker some time since.

The ceramists, numbering 120, arrived in autos at the Alliance Country Club in time to indulge in frolics previous to a delightful luncheon given with the compliments of the Sebring Pottery Company.

A resolution relating to the formation of Industrial Associations Divisions was read at the conclusion of this dinner.

At 2 o'clock the large delegation journeyed in a special car to Sebring, where the plants of the Sebring Pottery Company, Limoges China Company and Strong Enamel Company were visited. The first two mentioned manufacture a general line of dinner-ware, while the latter makes high grade enamel ware known as Crest-White ware, and Crest-Blue ware. This is triple coated with white porcelain enamel inside. The outside of the white is coated with white porcelain enamel, while the blue is a solid robin's egg blue porcelain enamel outside. Both lines are acid and fire-proof. The line of ware includes wash-bowls, basins, rice-boilers, covered buckets, mixing-bowls, chambers, colanders, cups, mugs, saucers, cuspidors, dippers, soap-trays, oval vegetable dishes, convex kettles, milk and lipped preserving kettles, soup-ladles, dinner-pails,



Cutting 160 Rough Texture Brick Per Minute on American Equipment, Maximum Capacity 200 Per Minute, Plant No. 2, Alliance Brick Company.

chamber-pails, slop-jars, combinets, water-pails, dish-pans, sauce-pans, milk and deep-pudding pans, water-pitchers, toilet-pitchers and bowls, pie-plates, dinner-plates, soup-plates, coffee and tea-pots, sink-pans and roasters.

#### Trip Through Sebring Pottery.

The chief point of interest in the Sebring Pottery Company's plant seemed to be the McFall oil burning system. Mr. McFall explained every detail of the equipment, on eleven kilns, six glost and five bisque. Formerly it required 24 hours to burn a kiln with coal, but with oil time is shortened to nineteen and a half hours. The benefit derived from the use of oil is not in the saving of fuel cost so much as in the better quality of ware, due to the elimination of troubles from sulphur and carbon in the coal gases. Mack Hydrocarbon burners are used. Fourteen to fifteen hundred gallons are required for burning one seventeen-foot up-draft kiln, with



40 pounds oil-pressure and one-half pound air pressure. The oil is pre-heated to approximately 200 degrees.

In the clay department of this plant is used a patented batting-out machine, which proved interesting to the ceramists, as did the stove-room and the decorating department, the latter containing a recently designed decorating machine of much merit.

#### Points of Interest in Plant of Limoges China Company.

The Limoges China Company plant is similar to the Sebring Pottery Company, in fact, is owned and operated by the same people controlling most of the pottery interests in that section. The most prominent feature in this plant was the Decalcomania machine, built by the Proctor & Schwartz, Inc., Philadelphia, Pa. This machine is one of the continuous conveyor type and is made up of brackets suspended between two parallel chains. The dryer in a series of continuous successive operations dries the sizing on the ware, removes the decalcomania paper from the china by water sprays and dries the decorated ware. One of the very novel features of this drier is the tray and bracket design. When the trays travel through the drying compartments they hang from the chain in the usual manner but when they pass horizontally in the table or belt formation in front of the operators, the end brackets automatically drop beneath the level of the trays leaving only a continuous smooth belt made up of many small trays having no projections of any sort extending above the trays to obstruct the rapid handling of the china to and from the tray. At the feed end of the machine the conveyor forms a belt on to which the sized or varnished ware has been placed. It then passes into the first drying compartment where it passes up and down in front of a fan and the sizing is dried. The conveyor then comes out again in belt formation where operators place the decalcomania or transfer on the ware after which the conveyor carries the china beneath a water spray that automatically removes the paper. At this point any entrained water is dumped from the ware and it enters the second drying compartment, which is similar to the first. It comes from this compartment dry and is ready for the kiln or further decorating. This machine saves time, floor space (occupying not more than 200 square feet), breakage due to extra handling in boxes, cost of boxes and increases production.

Two American Dressler tunnel kilns are being operated very successfully on this plant. Several cars of ware were put through the glost kiln while the ceramists were there. The return trip was made without incident.

Tuesday evening was given over to story telling and general button-holing, the crowd gathering in the basement of a drug store, where light refreshments were served.

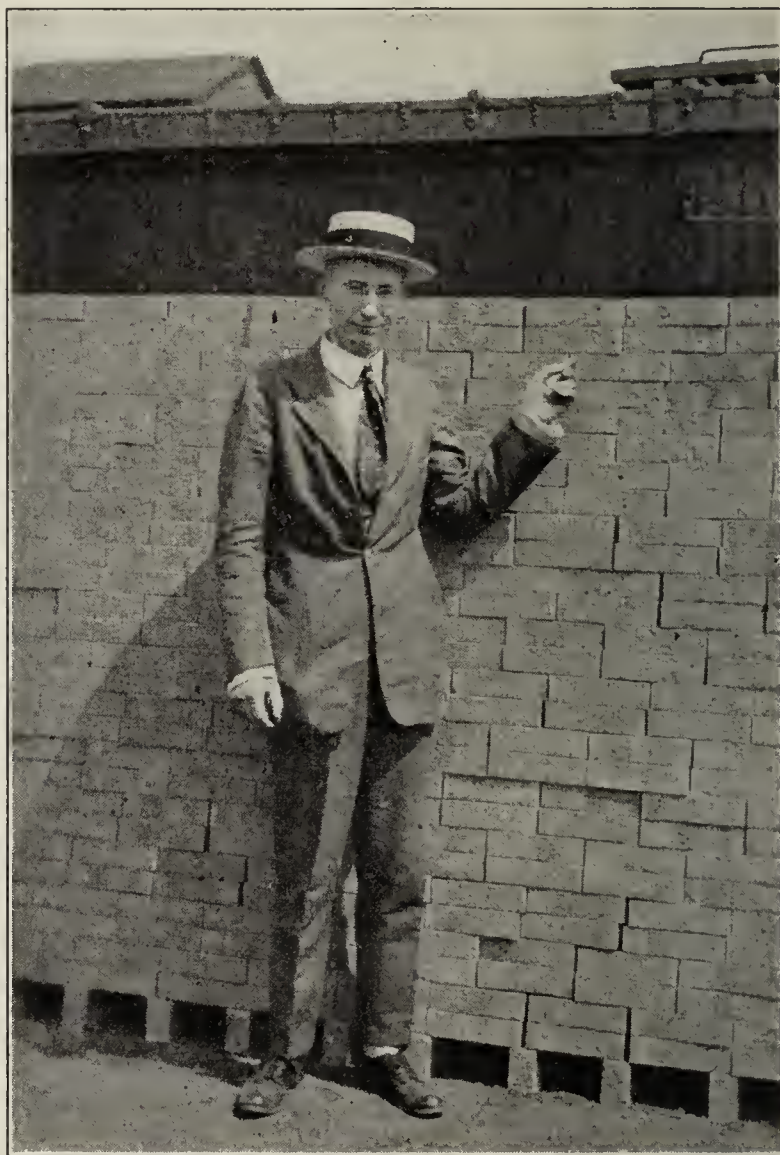
#### Oil Burning System on Insulator Plant.

Wednesday morning a special interurban car carried quite a large delegation to East Liverpool, Ohio, where a reception committee from the R. Thomas & Sons Company awaited. Groups were taken through this fine factory where high voltage electrical porcelain is manufactured. R. Thomas and H. R. Holmes escorted the groups through the plant. The kiln room was visited first, where the oil burning system was inspected. Seven of twelve kilns were being burned with oil, five of which were equipped with Leader burners, while two had Maxin burners. The oil is stored in a tank with a capacity of 125,000 gallons, a 6,000 gallon tank is used for immediate supply. Heavy crude petroleum (Oklahoma oil) is used. This oil is so heavy when it is shipped in winter that it can hold a man's weight. This oil has a gravity of 2,462 degrees.

The oil is preheated to 180 degrees. The air is not preheated. The air pressure used is 8 ounces, while the oil

pressure is 25 to 30 pounds. Steam can be used if desired and the system can burn either oil or gas. Gas is really the preferable material as it is easier to handle, cleaner, more economical and makes better quality of ware. Oil, however, is considered far superior to coal for their purposes. As stated by Mr. Thomas, the main thing is to hold the oil back. The fourteen ft. up-draft kiln is burned in 48 to 53 hours, about the same time as with coal, 1,600 to 1,800 gallons of oil being used. They burn to cone II fairly flat, or 2,462 degrees.

An overhead carrier system, the equipment of the Loudon Machinery Company, Fairfield, Iowa, is used throughout the kiln shed. This carries all green ware and saggers and runs all finished ware from kilns to packing rooms. It formerly required six experienced men five hours to handle the green saggers, now it takes but two small boys to do this work,



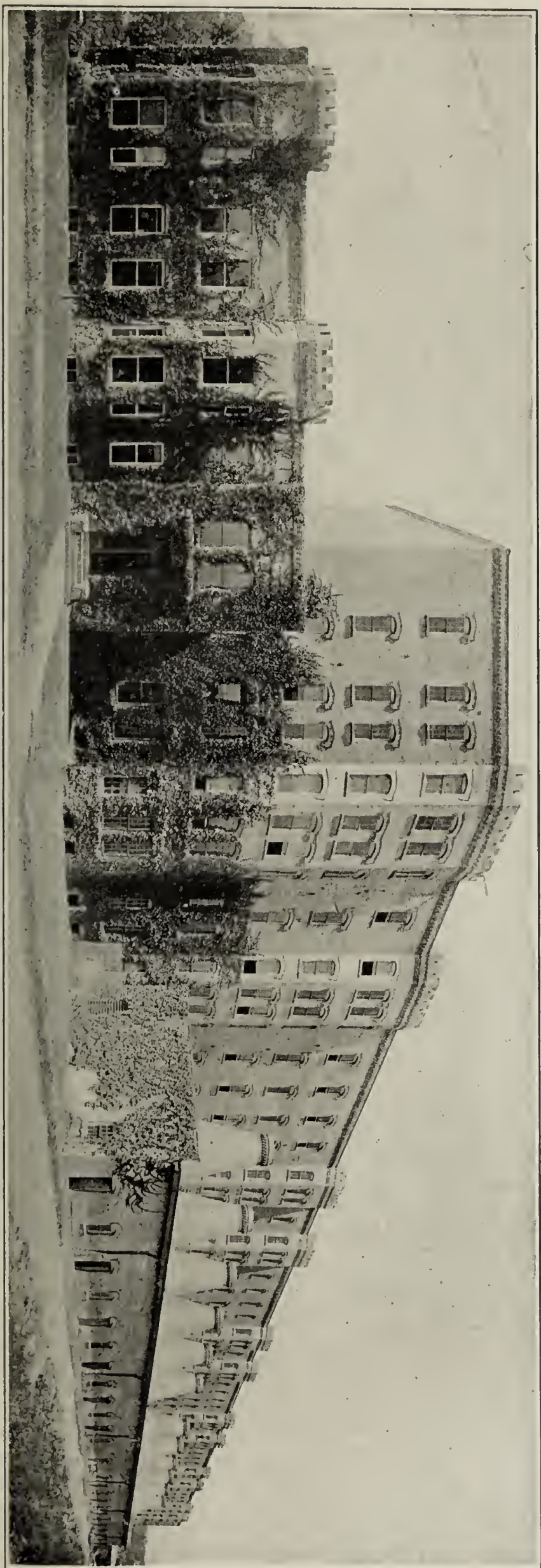
Dr. Albert V. Bleininger, Up Against a Hard Proposition.

and it is done in less time. This great saving is due to the Loudon carrier system.

#### Manufacture of High Voltage Electrical Porcelain.

From the kiln sheds the ceramists walked to the slip house where the raw material, consisting of flint, spar, English china clay and English ball clay is stored in separate bins holding 10 to 18 cars each. Smaller bins of 2 to 3 car capacity are used for storing Albany Slip clays, Florida and some domestic china clays. The Jeffrey conveying system is employed in good stead in this department. Here the materials are weighed and mixed and placed in blungers. Water is added and the mixture agitated until all lumps are broken up and a perfect mixture obtained. Sufficient water is used to give the consistency of thick cream, this is called slip. The slip then goes through a fine screen called lawn which removes all coarse particles. Powerful pumps force the screened slip into filter presses, where the excess water passes off leaving





South Front Plant No. 4, Homer Laughlin China Company, Newell, W. Va. Capacity Thirty Kilns.

the body in the form of thin cakes about the plasticity of putty. The next step depends upon whether the prepared body is to be used for the dry or wet process.

#### Dry Process.

For the dry press process the cakes of clay from the filter presses are thoroughly dried and then pulverized. The powdered clay is then mixed with just sufficient water to dampen it but not enough to make it sticky or destroy its powdery form. The body in this condition is placed in steel moulds of small dry presses operated by hand as this enables the operator to adjust the pressure to the consistency of the clay. The operation is both rapid and accurate and well suited to all low voltage pieces such as knobs, cleats, lamp sockets, etc., but it is not suitable for pieces for high voltages on account of the porosity of the clay.

#### The Wet Process.

For the wet process the cakes of clay from the filter presses are piled up, beaten with mallets into a solid mass and allowed to stand for four days, in other words allowed to age, for this gives the moisture time to distribute itself evenly through the mass. When aged sufficiently the clay is pugged to consolidate it, work out air bubbles and form it into a suitable shape for working. The pugging is an important process as upon it depends very largely the freedom of the insulator from checks and air bubbles. Pieces of electrical porcelain of a diameter rather large in proportion to their height, as pin and suspension insulators, are made on jigger machines. Plain tubes are made by extrusion, long corrugated pieces, as bushings and post insulators, are turned. The delegates watched with much interest the hot blast jigger system employed here. A gas flame plays on the press and mould while in operation to prevent sticking. In one operation the die on the press spins round and down cutting the spiral grooves or threads on the inside and on its return or upward journey retraces, screwing itself out of the green piece. At the same time the indentations on the outside and top and bottom of the piece are made by mould and press. The jiggered pieces are placed in a humidity dryer (3 tracks 114 ft. long) of the Philadelphia Drying Machinery Company's make.

From the drying rooms the ceramists were escorted to the high voltage testing room where every piece of ware shipped from the factory is first tested, 65,000 volts are used in testing medium size ware.

#### Luncheon at Elk's Club.

The Taylor, Knowles & Taylor, Homer Laughlin China Company, Taylor, Smith and Taylor and E. M. Knowles Company gave a complimentary dinner at the Elk's Club, which will not soon be forgotten by the hungry and thirsty ceramists. At this luncheon the final business of the meeting was transacted, including resolutions thanking all who were instrumental in making for the success of this very pleasant and profitable mid-summer meeting. Mr. W. E. Wells, president of the Homer Laughlin China Company, was the principal speaker at this function.

In the afternoon the ceramists trolleyed to Newell, W. Va., a few minutes' ride across the river from East Liverpool, where the immense plant of the Homer Laughlin China Company was inspected.

#### Trip Through Homer Laughlin China Company's Plant.

This factory is one of their five splendid plants which produce approximately one-fourth of all the earthen ware dishes made in the United States. Their beginning was in 1871 with a plant of two kilns, the first built in America for white ware. In keeping with their policy for real service to their patrons this company has as its chief advisor Dr. A. V. Blein-



inger, the foremost ceramic engineer in the world today, who acted as one of the guides in the inspection tour of the factory. Both the elder and younger Mr. Wells served on the reception committee. The plant was in complete operation from one end to the other and its cleanliness, light and ventilation, combined with the cheerfulness of the immense force of busy workmen turning out hundreds of pieces of fine earthenware, made the trip through most enjoyable and surprising.

China clays from Florida and North Carolina, Cornwall and Devon, England; flint from Illinois, Maryland and Pennsylvania; feldspar from North Carolina, Maine and Canada; boracic acid from the Mojave Desert in California and from Tuscany, Italy; cobalt from Canada and Missouri; all of these and a number of minor materials are combined in every piece of the Homer Laughlin ware. "After a cup is packed in straw from Ohio, in a cask made of West Virginia lumber, and is used to serve coffee from Brazil, with sugar from Cuba, it represents a combination that has been assembled from all quarters of the globe."

#### Machinery.

Owing to the fragile nature of pottery in every stage of manufacture, it cannot be handled by machinery to the same extent as other fabrications. It has always been, and, from the very nature of the goods, must always be largely a product of the human hand. Much study and expense have been devoted to the effort to more largely introduce machinery and mechanical appliances, but, generally speaking, progress along these lines has been slow.

#### Mixing.

Of the first importance are the formulae employed for compounding materials for body and glaze. The various ingredients must be precisely balanced. The body mixture is composed of three fundamental ingredients, china clay, flint and feldspar, and these three ingredients have been likened to the principal elements of the human body. Flint, which is pure silica, is infusible under high heat, and is employed to sustain the form of a dish similar to the function of bone in the human body. The china clay surrounding and covering the flint is similar to the flesh, and these two ingredients are bound together by feldspar, a very fusible material, which corresponds to the human muscles. The secret of a successful body is the compounding in exactly the right proportions of fusible and infusible materials. An excess or a lack of either one leads to disaster.

The materials for the body are reduced to a fine powder at the sources of production and shipped to the factory, where they are stored in large bins. Between these bins, on a track provided for the purpose, the workmen push a car which bears a large box, which sits on a scale designed for the purpose, and which automatically weighs each ingredient as it is shoveled into the box. When the proper proportion of each material is loaded on the car it is dumped into a large tank called a 'blunger,' where electrically-driven paddles mix the composition with water until it has the consistency of thick cream. From the blungers the liquid mass, known technically as 'slip,' passes in a steady stream over the sifters.

#### Cleansing.

These sifters are vibrating tables of the finest silk lawn, very similar to that used for bolting flour at the mills. The slip strains through the silk lawns, while all refuse, including foreign fatter coarse materials, etc., run over the lawn into a waste trough, and are thrown away. From the sifters the slip passes through a chute, in which it comes in contact with a series of powerful horseshoe magnets, which attract to themselves and hold all particles of a metallic character. All clay deposits contain a trace of iron or copper mineral.

While these particles may be too small to be detected by a powerful magnifying glass, yet under the intense pottery burning they expand enormously, and if not extracted will stain or speck the product.

#### Filtering.

After the slip is thus cleansed, it is forced under high pressure into iron filter presses specially designed for the purpose. In these presses the water is largely extracted pure and clear, and the clay substance retained in the form of large discs, or leaves, weighing some forty pounds each. The leaves of clay are then passed through a specially constructed machine known as a 'pug mill,' which thoroughly amalgamates the material, driving out all air particles, and leaving the finished clay of the consistency and general appearance of putty, ready for fabrication.

#### Moulding

The method of forming dishes varies according to the shape of the article. All perfectly round pieces are made on a machine known as a 'jigger,' which is a mechanical modification of the potter's wheel. A plate, for example, is formed on a mould of the shape of the inside of the plate. A disc of clay of the proper size is roughly formed by hand and thrown on this mould, which is then placed on a revolving disc and a lever pulled down, to which is attached a steel scraper filed to the profile of the under side of the plate. In this manner the plate in the soft clay is formed in a few moments. A workman with three helpers will make approximately 2,400 dinner plates in eight hours by this method.

The mould, with the plate attached, is then placed in a heated compartment, and after a few hours the clay dries and shrinks to such an extent as to release itself from the plaster of Paris mould. The crude plate then passes to the finisher, who smooths and rounds the edges, and sponges away any minor defects. The plate is then placed in another drying room, where in a few hours it becomes almost white. At that stage it is ready for placing in the kiln, or oven.

#### Bisque Burning.

At this point the article is exceedingly fragile, and can be readily broken with the fingers. It is therefore, necessary to use some protection in piling the dishes in the oven, and this protection is also necessary to prevent the flame coming directly in contact with the ware. For this purpose refractory clay receptacles known as 'saggers' are used. These saggers are of various forms, made to fit different sizes and shapes, and usually are large enough to contain two or three dozen pieces. These saggers are piled in tiers in the oven, which is large enough to hold some two thousand saggers. When the kiln is filled, the doorway is closed with bricks and plastered with clay, and the fires started. The dishes are subjected to a terrific heat for a period of forty-eight hours. The fuel used at Newell for this purpose is natural gas, which is piped for upwards of one hundred miles, from wells ranging from 2,000 to 4,000 feet deep. Natural gas, being free from sulphur and easily controlled, is the ideal fuel for firing pottery. The potteries where this fuel is available have a distinct advantage over those that must use coal.

#### Irregular Shapes.

Articles that are not precisely round cannot be formed in the clay state by machinery. Such articles are made either by the pressing or casting process. Pitchers, sugar bowls, covered dishes and similar articles are produced by casting. A plaster of Paris mould is made of the exact size and shape of the article wanted. This is then filled with the liquid slip. The plaster of Paris instantly absorbs a part of the water, leaving a deposit of clay about the inside of the mould. The excess slip is poured out, and the mould with its lining of



clay placed under heat for a few hours. The lining of clay shrinks away from the mould in drying and may then be lifted out in the exact form of the article wanted. Flat, irregular pieces, such as meat platters, are formed over a mould entirely by hand. Of course, articles either cast or pressed are then fired in the same manner as the articles, such as plates and saucers, made on a jigger.

After the oven cools for about two days, the saggars are taken out and emptied, the first firing, or baking, being completed. At this stage the ware is pure white, but of a dull, velvety texture. It is known as 'bisque ware,' as it is still without the glaze.

#### Glazing.

The glaze is prepared in a liquid form, and consists of a thoroughly amalgamated mixture of white lead, borax, silica, whiting, zinc and feldspar ground in water. If a cupful of this mixture is placed in an oven and fired, the result will be a cup half filled with a solid block of pure glass. The bisque plate is dipped in the liquid glaze mixture. The plate is sufficiently porous to absorb the water and leave a complete coating of the glaze materials in powdered form. In this condition the articles are again placed in saggars, which are stacked in the glost ovens to undergo the second firing. In these ovens no two pieces must come in contact, as the glaze in fusing and cooling would bind them solidly together. The saggars must be air tight, as any contact of the soft glaze with the flame will leave a stain. The glost firing reaches about 1,600 degrees Fahrenheit, and continues some thirty-six hours. After cooling, the plain white-ware is finished, and is ready for the market unless decorations are to be applied.

The most important and expensive material used in decorating is pure gold. This is prepared in two ways. There is a commercial solution known as 'liquid bright gold,' which is employed in decorations of the cheaper, or medium class. The basis of this material is pure gold, but some other ingredients are used to reduce the cost. The other preparation of gold is cut down from pure bullion with the use of acids. Altogether, The Homer Laughlin China Company expends about \$75,000 per year for gold. This requires about three hundred pounds of pure bullion. The gold lines on the edges of plates, etc., as well as the gold tracing about the handles, are applied with brushes by hand, but all ornamental gold designs are applied with a simple rubber stamp. This work is rather speedy, and does not require great skill, which explains why ornamental gold designs may be had at such a reasonable price.

#### Decalcomania Transfers.

Decorations in colors are made almost entirely from decalcomania transfers. The designs are lithographed on paper by a particular process, and mechanically transferred to the ware. Some of the best artists in Europe and America are employed in creating designs for decalcomania transfers, and The Homer Laughlin China Company, being the largest users in the world of such transfers, has the opportunity of selecting its patterns from the work of the best ceramic artists on earth. Years ago, before the decalcomania process was developed, each pottery was obliged to rely upon the work of its own designers. For that reason the scope and variety of decorations were much curtailed as compared with the unlimited opportunity of the present day. After the gold and the transfers are applied to the ware, another firing is necessary. In this last burning, which lasts about twelve hours, the glaze is softened, and the colors and gold sink into, and become a part of the glaze, which process imparts the remarkable brilliancy of pottery decorations.

After the afternoon spent at Newell, W. Virginia, the ceramists returned to the Elks' Club in East Liverpool, secured their luggage and lingeringly said their adieus before making their departure, all feeling that the three days were well spent and that membership in the American Ceramic Society is indeed a valuable asset.

## NOTES ON THE CERAMIC MEETING.

IN RESPECT to attendance it was one of the best mid-summer meetings ever held in the history of the society, but unfortunately a number of the plants were shut down, due to the present slack business in the pottery line and this marred the meeting to some extent, however, the entire three days held much of interest to the ceramists and much information was gleaned in the excursions through the various plants and the buttonholing and section meetings.

The ceramists were given a good opportunity to study the application of oil in the burning of up-draft kilns, for two of the plants visited were successfully burning with oil. The systems used on the Sebring Pottery and the R. Thomas & Sons factories varied little in method and detail. There are a number of other ceramic plants in the East Liverpool district that have been burning with oil for some time, the Potters Co-Operative Co. was the first in the general ware line in Ohio to adapt an oil burning system. The burners at both plants visited, as well as the proprietors, all agree that it is not the saving in fuel nor time of the burn that makes for the great benefit derived from use of oil, for little time is saved and but a fraction of the cost over coal has been noted. The better quality of the ware and a larger percentage of good ware per kiln are the main arguments in favor of oil. Natural gas is the ideal fuel but the scarcity of same makes its use out of the question. Oil is the next best fuel, for troubles from the sulphur and carbon in the gases so common in the use of coal are entirely eliminated. Some day producer gas will be the common fuel used on ceramic plants.

The hot blast jigger system employed on the R. Thomas & Sons' plant was of unusual interest to the ceramists. In this, the flame used is just sufficient to eliminate sticking but not too hot to injure press or mould or to make the clay too dry. One gentleman present who remembered seeing the demonstration by The J. D. Fate Co. at one of the National Brick Manufacturers' Association conventions, wherein electricity was used in lubricating the trowel while cutting the clay mass, wondered if electricity could not be applied in the same manner on the jigger machine as employed in the Thomas plant.

Interviewed by a newspaper scribe, Prof. Binns declared, "There is a great demand today for trained ceramists, greater in fact than ever before and to such extent that the ceramic schools are not able to turn them out fast enough. Manufacturers want experienced department heads; the schools are crying for trained teachers and the supply has to be filled. I believe the time is coming, in fact, fast approaching, when all pottery manufacturers will engage their own chemists. The action of the Homer Laughlin China Co. in securing the services of Dr. A. V. Bleining is most commendable. It proves the progressive spirit of the firm reflected by W. E. Wells. Then, take the Sebring Pottery Co., which has engaged Ira Sproat to assume charge of the research work on their plant. Tile and brick manufacturers have been more interested in adding a research chemist to their staff than have the whiteware manufacturers. These men have saved their firms considerable money and have done much to improve the quality of the products in these plants. I am firmly convinced that the day is fast approaching when all pottery manufacturers will add to their resources by the establishment of a research department, with a competent man in charge."

A suggestion by Ross C. Purdy, the new full-time organizing secretary of the American Ceramic Society, that should prove interesting and acceptable to the potters in the East Liverpool district is that of holding a Pottery Institute in that section. Plans are being made for same, and it will be the first of that character ever held in the United States. It



will be of a purely educational nature, consisting of lectures and tests by men of well-known ceramic knowledge and experience. This Potters' Institute will be held in East Liverpool, O., at some future date not yet determined.

The Society will inaugurate a new branch of the organization to be known as the Industrial Associations Division, which will be open to all associations interested in ceramics, especially research work. This should appeal greatly to such organizations as the United States Potters Association, The American Association of Flint and Lime Glass Manufacturers and kindred organizations. The annual dues for associational membership will be \$480, to be paid in quarterly payments. This money is to be expended for research work along the particular line desired by the individual associations. The publication of the results of such experimental work is to be confined to the American Ceramic Society Journal or to such other media as is felt proper.

Pres. Chas. S. Sebring expressed regret that the Sebring Pottery had been forced to shut down their clay shops. He explained that it was the first time in the history of his company that the inactivity during the summer season had continued over such a long period.

The compartment kiln seen on the Alliance Brick Co.'s new plant was invented by W. D. Richardson, who was on the ground getting everything in shape for the operation of same. Two of these kilns are in successful operation on distinctively different types of plants, namely The Ludowici-Celadon roofing tile plant at New Lexington, O., and The Hebron Fire and Pressed Brick Co., Hebron, N. D. This type of kiln employs producer gas as its fuel. A detail description of it and its modus operandi will be published in the September issue of *The Clay-Worker*.

One hundred and twenty ceramists partook of the well-prepared dinner at the Alliance Country Club and about the same number attended the banquet Monday night at the Congress Lake Country Club.

Ira Sproat handled the details of the meetings and trips in a very acceptable manner. It is a thankless job and takes a man of patience to smile through all the worries and troubles when most of the duties of a committee are pushed over onto one man's shoulders. We noted that Irene was getting a little round shouldered at the tail end of the three days.

Mrs. A. V. Bleininger, Mrs. Robt. Landrum, Mrs. Thomas Sant, Mrs. Ross Purdy and daughters, and Miss Lysbeth Hamil were among the ladies present. Miss Purdy (fourteen years old) made a three-mile swim across Congress Lake Monday afternoon and didn't miss a dance that night.

Three foreigners were present on the trips through the plants or rather to the door of some of the plants. On the second day's trip a member of the party was discovered pocketing a handful of prepared raw mixture. Naturally this did not make a hit with the proprietor nor tend to make the perpetrator of the trick overly welcome. At the remaining plants he was "given the gate." This violation of the courtesy extended is the first incident of like nature the writer of these notes has heard of during the last sixteen midsummer meetings he has attended. We can have but little respect for those, who given the privilege of inspecting a plant, wherein there are many private formulae in use, violate the generally well-understood conditions under which such trips are made, and especially is it exasperating when we stop to realize that certain countries seeking this information are making ceramic ware, paying but a few cents a day wage and because of their low cost in manufacture are able to dump their products on our markets, selling at a price lower than American manufacturers are able to make these goods. We are a liberal people and we have passed out of the days of high fences and believe in a common inter-

change of ideas, the days of trembling secrecy are in the discard, but we must have protection from such knaves.

R. T. Stull and L. Shaw, both with the U. S. Bureau of Mines, took in everything from soup to nuts and threw in a story or two to boot.

Bob Landrum seemed to grow sad after the first day. His better half took in only the first day's trip.

The quartette par excellence—Sanders, Manion, DeWitt and Lord—sure did give us some close harmony, in fact it was a little too close. Kirk made a good leader. "Come, come, come to the little brown church in the wildwood," was started on numerous occasions, but there is no safety in venturing the assertion that it was ever completed. Some one was always there with a brick, a piece of clay or what-not and generally it was a what-not.

The Al. K. Hall boys were not much in evidence, although old Logan Berry was, and little brown jugs were not uncommon.

An informal baseball frolic was staged just prior to the luncheon at the Alliance Country Club. Kirk, Stone, Rhead Staley and a few others loosened up their glass arms.

### THE HIGH COST OF STRIKES.

The following report has been given out by the National Industrial Board, regarding the strikes in Pennsylvania, during the year 1920.

In wages alone, the loss of \$14,514,195.00 is reported by the Pennsylvania Bureau of Mediation and Arbitration, which resulted from 555 strikes, occurring in that state during 1920.

The following tabulation is given to show where the greatest loss in time and wages was encountered:

| Industry             | Total<br>Number | Man Days<br>Lost | Wages<br>Lost |
|----------------------|-----------------|------------------|---------------|
| Building .....       | 72              | 274,751          | \$1,484,783   |
| Chemicals .....      | 4               | 1,508            | 7,368         |
| Clay .....           | 12              | 8,760            | 37,853        |
| Clothing .....       | 49              | 183,118          | 1,055,644     |
| Food .....           | 7               | 4,881            | 33,509        |
| Leather .....        | 14              | 5,154            | 29,827        |
| Liquors .....        | 13              | 11,113           | 52,888        |
| Lumber .....         | 5               | 38,383           | 205,563       |
| Paper .....          | 13              | 4,173            | 27,986        |
| Textiles .....       | 139             | 338,225          | 1,789,013     |
| Laundries .....      | 1               | 1,470            | 5,000         |
| Metals .....         | 88              | 912,366          | 4,753,033     |
| Mines .....          | 44              | 1,121,607        | 3,907,249     |
| Public Service ..... | 33              | 143,030          | 857,345       |
| Tobacco .....        | 6               | 4,492            | 22,828        |
| Miscellaneous .....  | 50              | 74,723           | 242,766       |
| Hotels .....         | 4               | 351              | 709           |
| Schools .....        | 1               | 208              | 832           |
| Total .....          | 555             | 3,128,315        | \$14,514,196  |

### THE CEMENT FIGURES

The United States Geological Survey is now getting out a monthly bulletin on the production and sale of cement. These statistics are being prepared under the direction of Ernest F. Burchard. They show some interesting progress during the first half of the year, too, the sales starting off in January with just a little over two and a half million barrels a month, and winding up the half year with more than ten and a half million barrels sold in June. The total sales for the first half of the year were 40,075,000 barrels while the total production was 42,468,000. Stocks left on hand amounted to just a little more than eleven million barrels, so if the last half of the year is up to expectations all the cement stock on hand will be cleaned up and the mills will be kept hustling to supply the needs.



## ON THE TRAIL OF A TILE IDEA

SEVERAL PEOPLE in the west end of Kentucky have for some time been nursing some interesting and worthwhile ideas about hollow building tile. And the present discourse is a story of an effort to trail up and follow these ideas to see what has been doing, and to get a better understanding of those who are following the ideas, and to see what may be done in a practical manner to help the cause along.

The trail in this case started at Paducah, where the Paducah Brick & Tile Company has done some work in hollow building tile. Thence to Dawson Springs, and a motor trip of seventy-five miles through the West Kentucky coal mining territory and the Green River farming country to Owensboro, Kentucky.

There was a little meeting of clayworkers called at Paducah in July and there came to this meeting three Clark brothers, who constitute the Clark Manufacturing Company, with a home office at Owensboro, R. F. D. 3. Some time previously Mr. Henry Clark had discussed with the writer the idea of promoting the use of a type of building tile peculiar to that section of the country, for general building purposes on the farms and in the towns and cities in that territory. The type of tile they are interested in is a two-cell block 4x8x12 making its own face, either in plain finish or scratched or texture face. The idea back of it is to develop its use for general building purposes, laid up in walls pretty much as one lays up brick, as a better substitute for wood buildings. Others in the territory have fostered the same idea. Manager Bobbitt of the Madisonville Drain Tile Co. being one among them, who has promoted the building of quite a number of homes and other buildings in Madisonville using this type of hollow building tile. So it will be seen that several have been nursing and cherishing ideas along this line. And it was the Clark brothers who set forth to get action out of them. They started in by coming to Paducah three strong, where the first thing after greeting the writer was the statement that they had motored over to Dawson Springs, left their machine there and come on down to Paducah to take the writer back with them to get pictures and a story about hollow building tile. It was too good to miss and so the trail started.

### At Madisonville, Ky.

The trail led over about seventy-five miles of cross-country roads up and down hills and through the Green River valley from Dawson Springs through Madisonville, winding up at Owensboro. An over-night stop was made at Madisonville, followed by a visit to the plant of the Madisonville Drain Tile Co., where Manager Bobbitt is busily making drain tile and hollow building tile, both in 4x8x12 and in the standard size of 5x8x12. Mr. Bobbitt has a two-kiln plant and operates his machinery equipment with an electric motor, buying outside power. The kilns are of the standard round draft type and he uses pyrometers and carefully checks up the burning. The raw material, the time record, and burning process here is practically identical with that of the Clark plants and is characteristic of that country. There is a water smoking period of forty-eight hours, starting with a temperature of about 500 at the top and 250 at the bottom, and winding up with a temperature of about 1,800 on top and ranging from 1,500 to 1,760 or as high as 1,780 at the bottom. This is held about seventy-two hours, making the total in smoking and burning time 120 hours, and the maximum temperature 1,800.

There was found some interesting examples of construction with the 4x8x12 two-cell hollow building tile in Madisonville,

both in complete structures and also some splendid examples in the use of this tile making its own face for foundations and basement work under frame buildings. From here the trail led over the hills and into the Green River valley and to the plants and products of the Clark Manufacturing Co., as shown therein.

### How a Tile Idea Grew.

Tile making was started by the Clarks in Western Kentucky twenty-eight years ago. The start being made by F. W. Clark, father of the present generation, who died in 1910. The original purpose was the making of drain tile, and also the making of brick to serve the needs of the surrounding territory. The lay and nature of the land in that part of Kentucky makes under drainage essential to get the best results in farming and, too, it is a section of the country which has produced and used a fair percentage of drain tile during the past twenty-five years.

The making of the two-cell hollow building tile, 4x8x12, furnishing its own face in wall construction, dates from 1908. This is the youngster of the clayworking industry down there, but it is one which has furnished the substance for a vision on the part of the Clark brothers that is now in a fair way to be realized. This vision is that of making hollow burnt clay building tile the great building material of the future in their own local surrounding. They have no ambition to develop a great manufacturing plant for wide distribution. Their ambition is to develop the use of this building material in their own community for the many purposes to which it is better adapted than any other material offering.

They have already made some splendid progress and it was to review this progress, take some pictures, more particularly of buildings erected than of their plants, that they invited the writer to go over the trail with them, that between us we might devise ways and means for promoting the good work of better building.

### Putting a Good Face On Hollow Building Tile.

The buildings they have erected already include almost every class of structure from a modest chicken house and simple garages and granaries to homes, big barns, school buildings and tobacco warehouses. Each of the Clark brothers have homes built of their own hollow tile. They have erected homes for employes with it, have erected farm homes, barns and granaries with it, and sold it to others for the same purposes, have a store building constructed with it at the Ashbysburg plant, and a new \$20,000 school house in Daviess County, Kentucky, is built of this tile, showing its own face, and it makes a splendid showing, too.

They have done enough structural work with it already to demonstrate its beauty as well as its structural qualities, and their ambition now is to promote its use in their own territory so that the builders of the future will turn to it as the natural and best all-round building material for a great variety of structures. It is a commendable undertaking that *The Clay-Worker* will lend hearty support to.

### The Clark Manufacturing Company.

The Clark Manufacturing Co. is composed of three brothers, who operate two plants and a farm, and do outside exploiting and building as a partnership firm. Two of the brothers, the older and the younger, R. L. Clark and Henry Clark, are at the home office, which is at Mosleyville, about ten miles out from Owensboro in Daviess County. Joseph E. Clark, the other brother, operates the Ashbysburg plant, which is about nineteen or twenty miles southwest across McLean County in the down-river point of Hopkins County. It is on Green River at the mouth of Pond River.

A few miles still farther up Green River they have a farm



of 482 acres, most of which has been drain tiled and is under cultivation. On this farm they not only have residences of hollow tile, but they show the new in contrast with the old in barn construction, because the new is made of hollow tile, while the old was made of logs and lumber. Other interesting structural features shown on their farms is a granary of hollow tile. A second barn of hollow tile has what seems to be a silo structure at one corner. It is not a silo, however, though it is built of silo block. It is a water tank or cistern built above ground by re-enforcing the mortar joints of the hollow tile block and plastering the inside. A windmill on the river bank operates a pump, and a concrete watering trough furnishes means for watering stock in the barn yard.

#### A Farm and a Tile Plant.

Following the trail as it was made by motor from Madisonville across the mining section and down Green River we came first to the farm and barns, in which they have practiced what they have preached, both in the matter of using drain tile and building tile. A few miles below the farm and thirty miles from Owensboro is the Ashbysburg plant of the Clark Manufacturing Co., where Joe E. Clark has his home and has charge of operations. Here they have about thirty acres of ground. And in addition to the home of Joseph E. Clark, which is built of hollow tile, they have a store built of the same material, some other buildings for employes, and have a three-kiln tile plant at which they make drain tile, hollow building tile and side-cut stiff mud brick to serve the needs of the community. Here, also, is the dock and two small tow boats which they operate in the river together with several barges to bring coal to this plant for fuel and to serve the fuel needs of the community. Also for taking the products of their farm to market and marketing tile and for any other purpose that can be served up and down the river.

#### Where the Fuel Problem is Solved.

From here, after enjoying the hospitality of Mrs. Joseph E. Clark at noon dinner, the trail led toward Owensboro to the home plant and office at Mosleyville, about ten miles out of Owensboro. Here they have twenty-five acres of ground on which is located the plant, office and homes of R. L. Clark and Henry Clary, and adjoining this is fifty acres of coal land, from which they mine coal to serve the fuel needs of the plant and of themselves and employes.

Down Green River below the Ashbysburg plant they have 500 acres of coal property with an active mine on it from which they serve the Ashbysburg plant, both for its needs and to do a retail coal business in the community. This coal mining property is a separate investment in which they have financed another party and which they are either willing to dispose of or make some arrangements with a boat transportation concern which will undertake the transportation or marketing of the coal. Their main interest and vision of the future is centered in the production and marketing of tile and in their farms and houses up Green River.

The home plant is similar to the Ashbysburg plant in that it is a three-kiln plant and they burn about twenty kilns of ware a year, the product being diversified, part drain tile, part hollow building tile and part brick.

The drain tile is the oldest product and perhaps still constitutes about two-thirds of the product turned out. The hollow building tile, however, constitutes the interesting feature with which they are largely concerned now, because of the prospects of future development. That is, they look for big future development both in building tile and in silo block which they make and have featured some in the past.

#### Realizing On a Vision.

That division of activities and personnel of the company is such as will enable them to follow up this promotion work too. For while each of two brothers looks after the operations of a plant, Henry Clark, the younger brother, is the outside man looking after the architectural and structural work from the home office. He takes contracts and does building upon occasion and has worked out some interesting details of the requirements in hollow tile construction in working around corners, window and door openings and so on.

It is his hope and desire to embody these details together with pictures and plan outlines of structures that are being built, in the pamphlet form for promoting the use of hollow tile as such in their surrounding territory.

#### A Unique Drying Shed Wall.

It is a splendid vision these Clark brothers have, and one that they have already realized on to such an extent as to practically guarantee big things in the future. The vision is that of the replacing of flimsy structures and fire traps on the farms and in the towns of the surrounding territory with walls built of hollow tile laid flat like brick and making its own face and architectural beauty. The more common size made and offered is that of a 4x8 face, but they make some four and one-half inches wide. And they have demonstrated their faith in it by using it in their own buildings, not only for offices and homes, but there is a remarkable example of its use in a drying shed at the home plant. The walls of this drying shed, instead of being made of lumber in a series of hinged sections that could be opened and closed, is made of hollow tile laid crosswise of the wall and slanted downward an inch in the twelve of length, just enough to prevent the wind from blowing rain through the wall, thus furnishing a permanent shed wall structure that saves work in that it is always open and need not be closed up for storms. They have one complete drying shed built this way and are preparing to replace all their old wooden sheds with this form of shed construction.

#### A "WHITE PAPER" ON POTTERY

CONSULAR REPORTS from England tell of investigations of the pottery industry by a special sub-committee which has published a "white paper" on the subject and conclusions of which state:

"Although associations exist in practically every branch of the industry, we have found no evidence that any attempt has been made to raise prices without reasonable cause. Nevertheless, we feel very strongly that, having regard to the fact that in this industry there exists associations controlling sixty per cent. or more of the industry, steps should be taken to safeguard the public interest. We, therefore, suggest that each of those associations which fix selling prices should be required to obtain from its members at the end of each yearly period and deposit with the (Government) Board of Trade a statement showing (1) the average trading profit and the average net profit in relation to the turnover of the industry in so far as it is covered by such association; (2) the average ratio of turnover to capital; (3) the average wages earned per hour of skilled, semi-skilled and unskilled labor."

How different this is from the doings in our country when the Government Committee investigates association activities. If they find associations tending even to fix prices, no matter whether those prices are fair or not, prosecution invariably follows. Some day we will perhaps reach the point where trade associations will be permitted to adjust and stabilize prices on a reasonable basis under proper governmental supervision to prevent excessive profits.



# ON THE TRAIL OF A TILE IDEA



Fire Proof Home Office of Clark Manufacturing Co.



A Tile Walled Granary, Weather Proof and Rat Proof.



Company Store at Ashbysburg, Done in Hollow Tile.



A New Idea, Hollow Building Tile in Barn Construction.



Clark Plant, Dryer of Hollow Tile in Background.



A Fine Combination, Barn and Silo of Hollow Tile.



## RECENT PATENTS

## IN THE CLAYWORKING INDUSTRY.

(Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering give patent number only.)

[Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering give patent number only.]

**No. 1,382,652. Brick or Building Block.** Jean E. Keifer, Lausanne, Switzerland, patentee. Patent assigned to Keifer, Pasquier & Bizot, Lausanne, Switzerland.

This patent is awarded for a hollow half brick or building block having sides of equal length and so shaped that when the equal sides are placed together they form a brick or block having at least one face or side shaped as an S with equal limbs.

**No. 1,383,131. Apparatus for the Manufacture of Bricks.** Edmond Lechat, Nantes, France, patentee.

A feeding apparatus for brick which comprises in combination upper troughs containing the material used to form the body of the brick, lower troughs containing concrete or other material to form a facing upon one or more sides of the brick; endless aprons constituting the movable bottom of the distributing troughs, each trough being provided with adjustable shutters, spouts vertically moved extending through an opening into the mold of the press; a series of feeding chutes leading into said spouts and another series of feeding chutes leading into the second, or facing, material.

**No. 1,383,686. Fire-Brick Trimming or Bevelling Machine.** Frank Wierbowski, Lorain, Ohio, patentee.

In a brick-trimming machine as described, a carriage adapted to have a grinding or dressing stone clamped therein, means to horizontally reciprocate the carriage, a brick-supporting pallet, means to elevate said pallet to engage the upper surface of the brick thereon with the stone carried by the carriage, means to adjust said pallet at an angle to the horizontal whereby bevelling of the brick may be had, said last-named including a vertical movable standard having a spider fastened upon the upper end thereof and set screws threaded upwardly through the spider in supporting engagement.

**No. 1,384,393. Process of Manufacturing and Handling Brick.** Grafton E. Luce, Chicago, Ills., patentee.

Patent for a process of handling brick during their continuous travel, which consists in moving a carrier against their line of travel, engaging said bricks and then retracting the carrier at a speed equal to or greater than the travel of the articles.

**No. 1,384,434. Tunnel Kiln.** Philip Dressler, Zanesville, Ohio, patentee. Patent assigned to American Dressler Tunnel Kilns, Inc., New York, N. Y.

In a tunnel kiln and in combination with the combustion chambers, gas burners projecting into the combustion chambers through the sides of the latter and adapted to project a supply of gas in a horizontal direction along the combustion chambers, gas supply flues located exterior to the kiln and connected to the burners, and gas-regulating valves between said gas supply flues and burners.

**No. 1,384,435. Tunnel Kiln with Sectional Combustion Chambers.** Philip Dressler, Zanesville, Ohio, patentee. Patent assigned to American Dressler Tunnel Kilns, Inc., New York, N. Y.

In a continuous tunnel kiln, the combination with a kiln chamber having an elongated hot zone, of a plurality of com-

bustion chambers arranged in an end-to-end series extending longitudinally of the hot zone and having air and gas inlets at one end and an outlet for products of combustion at the other end and of such proportions that the distance between the inlet and outlet of each chamber is several times the maximum transverse dimension of the chamber.

**No. 1,384,768. Revolving Crane for Brick-Handling.** Grafton E. Luce, Chicago, Ills., patentee.

Patent for an apparatus as described which comprises a rotatably mounted table, a carriage mounted for forward and backward movement thereon, a boom carried by said carriage, a frame suspended by said boom, and links connecting the frame and carriage to maintain the same parallel to each other.

**No. 1,385,299. Building Brick and Wall Construction.** George A. Bilque, Crafton, Pa., patentee.

A hollow twin brick structure having two stretcher faces and two header faces, all of said faces having substantially the same dimensions, one of said header faces being provided with a centrally-located channel-shaped recess adapted to divide the face into two similar header portions, the sides of the channel-shape recess intersecting the header face at substantially right angles to form square corners on each of said header portions, and a portion of the inner wall of the recess being formed at right angles to the side walls thereof.

## Trade-Marks and Designs Patented.

**No. 143-205.** Chicago Fire Brick Co., Chicago, Ills. Trade-mark registered for fire brick, brick drain tile, clay sewer pipes, hollow tile, clay tile, and flue lining.

**No. 144,827.** LaClede-Christy Clay Products Co., St. Louis, Mo. Trade-mark registered for fire-brick and fire-tile.

## THE A. S. T. M. ANNUAL.

THE TWENTY-FOURTH Annual Meeting of the American Society for Testing Materials, held at Asbury Park, New Jersey, June 21-24 was gratifying both in the matter of attendance and in the interest manifested. The total attendance is given as 830, of which 538 were members, and the balance ladies and guests. The meeting was well attended and the interest was active and earnest, showing the general feeling that standardization is a matter of prime importance today.

Reports of the doings of various committees of interest to the clayworking industry, as they appeared in the official bulletin of the society under date of July 25, are as follows:

"Committee C-3 on Brick has elected T. R. Lawson, Professor of Rational and Technical Mechanics, Rensselaer Polytechnic Institute, to succeed H. T. Shelley, who has been elected vice-chairman.

"Committee C-5 on Fireproofing has under consideration the preparation of specifications for fire tests of columns, to be included as a section of the Standard Specifications for Fire Tests of Materials and Construction (C 19-18). The new section will be based on the results of the fire tests of columns recently completed by the Underwriters' Laboratories, the Bureau of Standards and the Associated Factory Mutual Fire Insurance Companies.

"Committee C-6 on Drain Tile will now devote its energies to the investigation of chemical tests and chemical test requirements for drain tile, to determine their resistance to the action of alkalies and acids in the soil. Experimental researches are now under way.

"Committee C-8 on Refractories is now under the chairmanship of R. C. Purdy, Consulting Ceramic Engineer, 1764 North High Street, Columbus, Ohio. Mr. Purdy is also Organizing Secretary of the American Ceramic Society and in this way excellent means are provided for close co-operation between the Ceramic Society and the A. S. T. M. in the study of refractories."



## BRICKMAKERS HARD HIT BY HIGH FREIGHT RATES.

Industry Claims 25 P. C. Reduction on Transportation Costs of Brick and Fuel Needed to Bring Sales 25 P. C. Nearer Normal.

BRICK manufacturers of the country are pointing to present freight rates as the greatest handicap to building construction.

In Philadelphia high rates and the bricklayers' strike are preventing new work for which millions of dollars have been raised and limiting the progress of many operations under way, trade leaders state.

Philadelphia brick men are selling from 5 to 25 per cent of the usual quantity of brick. Settlement of the strike would increase business 35 per cent, they say, and a 25 per cent reduction in freight rates on brick and on fuel required in brickmaking would bring the volume of sales another 25 per cent nearer normal.

Brick manufacturers and refractory sales representatives in Philadelphia believe that from 20 to 50 per cent of the price of brick delivered-on-the-job goes to pay for freight on fuel and freight on brick.

They state that the increase since 1914 in freight rate on brick from yards to Philadelphia has been from 103 to 150 per cent.

### War Rate Still Enforced.

Present rates were imposed during the war by the government to discourage brick manufacturing and shipment in favor of direct war needs. One order placed an arbitrary freight rate increase of 2 per cent per 100 pounds on brick during the war. This increase has never been taken off.

Much face brick comes to Philadelphia from the Clearfield district. Rates per 1,000 brick in 1914 from Clearfield to Philadelphia were \$4.75. Today the rate per 1,000 is \$10.25, plus a war tax of 3 per cent, making the total \$10.55.

The cost of freight on coal from mines to yards of manufacturers, has increased proportionately, bringing the total cost of freight well up to 35 per cent of the price of a thousand bricks and haulage charges to and from freight cars are not included.

From a large refractory in New Jersey rates have jumped from \$1.75 per 1,000 to \$4.50. From DuBois, Pa., freight on a thousand brick has been increased from \$4.75 to \$10.50 since 1914.

Face brick sold in Philadelphia in 1914 at \$22 to \$30 per thousand. The price today is \$38 to \$52 per thousand. Pay of labor in the face brick yards has been increased about 60 per cent and in common brick yards 100 per cent. Men in common brick yards have received two reductions, amounting to 15 per cent.

"The public condemns brick manufacturers because prices have been doubled in six years," says S. B. Dobbs, who has yards at Mays Landing. "But freight rates make up a third of the cost."

"We are selling one-fourth of the quantity of brick we would be selling if conditions were normal," says James Tongue, treasurer of A. S. Reid & Co., brick and tile dealers. "If labor troubles were settled sales should increase to 60 per cent of normal, but freight rates must be restored to a peace-time basis before building will go ahead."

### Shipping by Truck.

Common brick manufacturers are shipping by truck cheaper than they can by rail. The sale costs are affected by rates on coal and materials.

The rate on coal per ton from mines to yards in this city in 1914, was \$1.85; today it is \$3.43, plus 3 per cent tax.

The price of coal is about one dollar less than the carrying charges to the brick yards.

Ralph P. Stoddard, secretary of the Common Brick Manufacturers' Association of America, says that, due to competition, brick is being sold in many parts of the country at less than the cost to manufacture.

"The majority of brick plants dependent upon rail transportation are closed or operating at a fraction of capacity," he says. "Plants able to reach their principal market by trucks are operating 50 to 100 per cent of capacity."

He writes of conditions in various common brick manufacturing centers in the country:

"North Haven, Conn., is one of the largest brick-producing centers in New England. The rate to Boston in 1916 was 91½ per cent a ton; and to New York 70½ cents a ton. The rates today are: To Boston, \$2.24 a ton; to New York, \$1.96 a ton. The principal manufacturers in that section state that these two markets are entirely eliminated by these rates. It now costs \$5.60 to ship a thousand brick from North Haven to Boston and \$4.90 to New York. Add delivery from railroad to job and elimination of these markets is explained.

"All Norfolk, Va., brick plants are located a few miles out of the city. In 1915 the rate per thousand brick, plant to city, was 50 cents. Today it is \$1.87½ plus 175 per cent increase in switching charges.

"Cincinnati manufacturers report that an average increase of 247 per cent on rates have entirely shut them out of Middletown, Hamilton, Miamisburg, West Carrollton, Tipppecanoe, Piqua, Troy, Dayton and Springfield.

"In Columbus, Ohio, the rate from plant to city in 1915 was 37 cents a ton; today it is \$1.12—a tax of \$2.80 a thousand brick from the nearest plant to a city railroad siding.

"Placing a thousand brick on a siding in Trenton from Fieldsboro, seven miles distant, now costs \$4.44, as against \$1.26 in 1915. Fieldsboro delivers to Trenton now exclusively by truck.

"In the Baltimore territory an increase from 65 cents in 1915 to \$1.40 per thousand brick has closed all plants except those that make truck deliveries. Buffalo is supplied from plants eleven to fourteen miles away. It costs \$5 a thousand brick to ship from plant to city. Many manufacturers now make deliveries by truck."

## DRAINAGE PROSPECTS IN NEW YORK.

The way has been paved by a constitutional amendment in the state of New York for extensive future land drainage, and a number of drainage prospects are in contemplation in half a dozen or more counties in the state, including Genesee, Niagara, Oneida, Orange, St. Lawrence, Seneca and Wayne counties. The acreage for drainage in these counties is estimated at nearly forty thousand acres, and in addition to this there are other projects being talked of which will aggregate 75,000 acres. It is an opportunity for drain tile manufacturers to do big business by aggressively pushing these ideas, and "selling" the communities on farm drainage.

## MR. SHELLEY SUCCEEDS GEORGE H. TEFFT AS MANAGER OF THE EASTERN CLAY PRODUCTS ASSOCIATION.

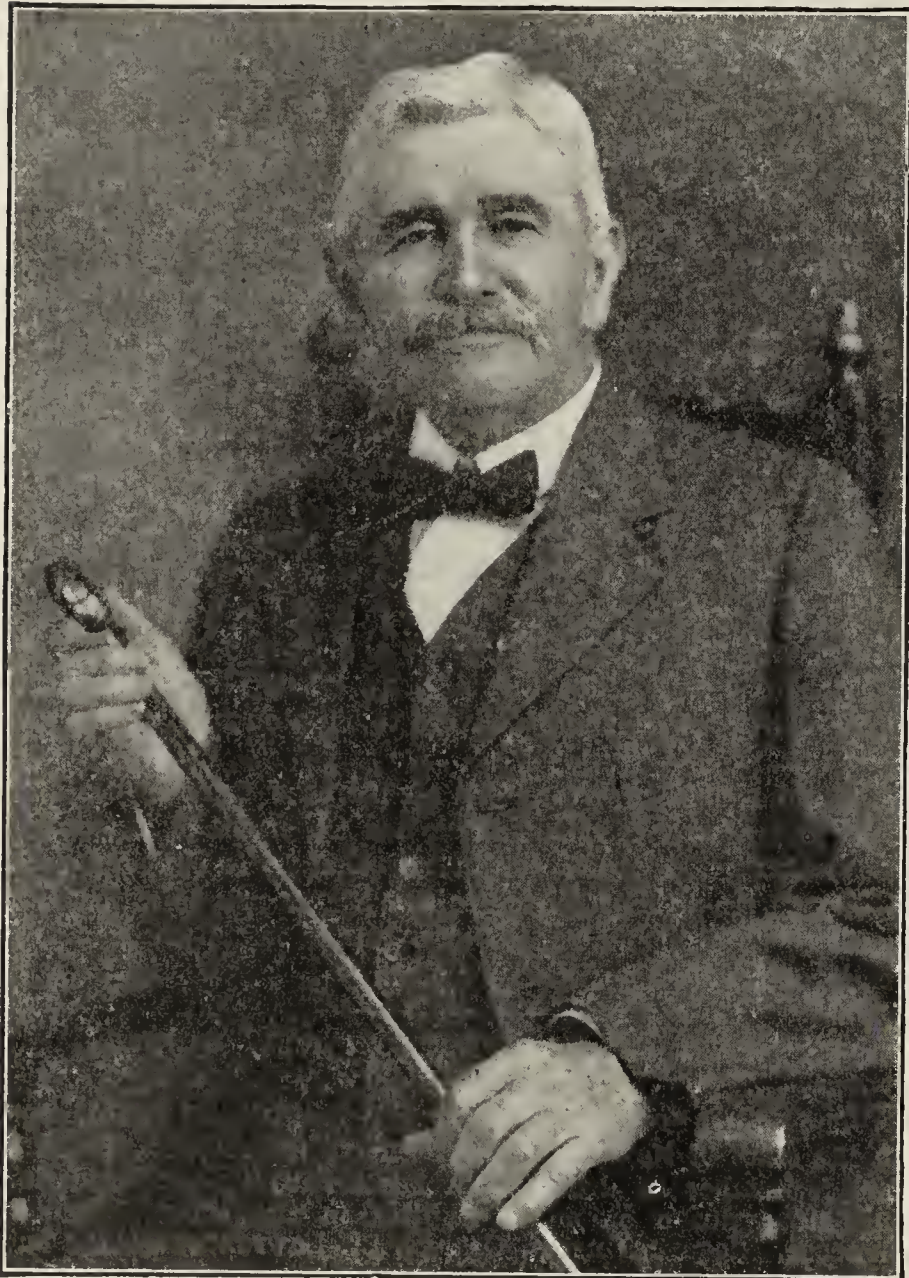
Mr. H. T. Shelley, formerly assistant engineer of sewer construction with the Bureau of Surveys, Philadelphia, has resigned this office to become chief engineer of the Eastern Clay Products Association, succeeding the late George H. Tefft. Mr. Shelley is an engineer of wide experience in municipal and sanitary work; is a member of the American Society for Testing Materials and American Society Civil Engineers, being an active member of several important members of the former organization. He will make his home in Pittsburgh, the headquarters of the association.



## OBITUARY.

Death of J. C. Steele, of Statesville, N. C.

AS ANNOUNCED briefly in the July issue of The Clay-Worker, the senior member of the firm of J. C. Steele & Sons, died at his home in Statesville, N. C., July 13. Considering his advanced years, he was eighty-two, he had been fairly active until very recently. He was one of the pioneer residents of that county. Not only was he active in business affairs but took a lively interest in all public affairs, serving as mayor of Statesville for a number of terms, being first elected in 1893. He was a conspicuous figure in the business and social life of the community. He started a small



The Late J. C. Steele.

brick plant in 1882 and being of an inventive turn of mind he soon interested himself in brickmaking machinery and other labor-saving devices, and much of the brick and tile machinery now used in the Southern States bears the name of the company of which he was the head for many years. He led a long and useful life, and the sons who succeed to the business have a heritage that seldom comes to the lot of mortals.

#### THE PASSING OF HENRY B. LOVELAND.

Word has just been received of the death of Henry B. Loveland, of Jewettville, N. Y., which occurred the latter part of May. Mr. Loveland was president and general manager

of the Ellicott Brick Company, Jewettville, and had been engaged in the brick business nearly all of his life. His son, George W. Loveland, has succeeded to the office thus made vacant. Writing of his father's demise, he says: "Father was a member of the National Brick Manufacturers' Association, enjoyed the meetings and companionship of the members, and appreciated the knowledge he had received through the National Association. I desire to continue the membership in my name, for I know I have much to learn in the brick business."

#### ILLINOIS BRICK MAN DEAD.

Hans Paulsen, manufacturer of brick at South Rock Island, Ill., for forty-seven years, died August 13, after a week's illness. Mr. Paulsen had lived in Rock Island for fifty years. A wife and four sons survive.

#### WITH THE CHEMICAL FOLKS

THE PREPARATION going on for the National Chemical Exposition at the Eighth Coast Artillery Armory during the week of September 12 shows many things of interest to clayworkers and to the ceramic folks generally. In addition to the displays there are some interesting papers scheduled, among them being the following:

H. F. Steinfeldt (Abbe Engineering Co.)—"Ball and Pebble Milling for Pulverizing and Mixing."

S. B. Kanowitz (Raymond Bros. Impact Pulverizer Co.)—"Grinding and Pulverizing with Air Separation."

H. S. Landell (Proctor & Schwartz)—"Drying and Drying Problems."

Upon the Evaporating and Drying program the following will appear, some of the titles for the addresses not yet being in hand:

E. G. Rippel (Buffalo Foundry & Machine Co.)

A. E. Stacey, Jr. (Carrier Engineering Corp.)—"The Relation of Atmosphere Conditions to Chemical Processes."

Max Donauer (Elyria Enameled Products Co.)

Arthur B. Stonex (Hunter Dry Kiln Co.)—"Drying with Moist Air."

A. S. Lissauer (W. L. Fleisher & Co., Inc.)—"Drying as an Air Conditioning Problem."

J. D. Stein (Grinnell Co. Dryer Division)—"Atmospheric Drying by Means of Compartment Tunnel and Continuous Belt Conveyor Dryers with Some Practical Applications."

H. H. Dickerson (Atomized Products Co.)—"Spray Drying."

The motion pictures of the Exposition will cover nearly every phase of the Chemical Industries; a large number of films are promised and the following titles indicate in a measure their phase of interest:

"Saving Wasted Millions Through Material Handling Equipment." Two reels. Courtesy of Economy Engineering Co.

"Conserving Coal and Saving Heat Values by Insulating Steam Pipe and Boilers." One reel. Courtesy Magnesia Assoc. of America.

"The Manufacture of Pyrex Glassware." Three reels. Courtesy of Corning Glass Company.

"The Story of Sulphur." Two reels. Courtesy of Texas Gulf Sulphur Co.

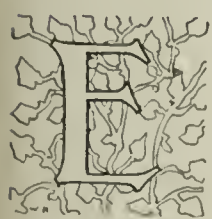
Reports of the importance of the American Chemical Exposition have been carried abroad each year by visitors and each successive show has greatly impressed the expert who came from foreign shores. Last year the representatives from abroad who visited the exposition exceeded all previous ones in point of importance and authority. This year there will be delegations from England, France and Canada, while South American countries, which before the war were the



biggest buyers of German chemical products, are showing increased interest. The Latin countries will no doubt send experts to get first-hand information on the development of the chemical industry in the United States during the past few years.

As regards the English delegation that will be here, the party from the British Isles will first visit Canada, to attend the chemical conferences that will take place there late in August and then adjourn to New York to meet in conjunction with the American chemists during the first week of September. An extensive program has been arranged for the English while they visit this continent. They will see the vast resources of Canada and excursions to Shawinigan Falls, Welland, Cochrane, Porcupine and Cobale have been arranged.

#### BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.



VANSVILLE BRICK manufacturing companies are doing a much better business now than they were a month or six weeks ago. John Andres, manager of the Standard Brick Manufacturing Company, says that orders for bricks are such that the brick industry will be stabilized for at least one year to come. Prices in Evansville were lowered last spring about 30 per cent. and this reduction in the price of brick stimulated the building operations to a certain extent. According to Mr. Andres, brick in Evansville are today from \$3 to \$6 per thousand lower than in many of the other Indiana cities. More than 100 houses are in the course of construction at the present time, according to Mr. Andres, and he sees still greater gains in building during the next few months.

Gas-burning outfits are now used in the First Avenue plant and the West Heights plant of the Standard Brick Manufacturing Company. Farm drain tile made at the plant on the Illinois Central Railroad near Evansville is now in very good demand and good fall and winter orders are expected for this product. Although the building permit total for the first six months of 1921 is less by about \$150,000 than what it was in the first six months of 1920, there is a still greater number of new houses going up in Evansville this summer than at any time since before the World War. Edward C. Kerth, city building inspector, is authority for this statement. Mr. Kerth expects this summer and fall to see at least 150 new residences added to Evansville. "The total cost of building operations for the first six months of 1921," said Kerth, "shows a decline slightly in excess of \$150,000 as compared to the first six months of last year." He said that, however, these figures did not include the million-dollar Victory Theater and the Hotel Sonntag, recently completed, and the Evansville College buildings, which now are under construction.

In the opinion of contractors and building material men in Evansville and other southern Indiana towns, there will be more building done in 1922 than during the present year. They say that many people who had planned to do building this year finally put off letting the contract in the belief that building materials would be even lower next year than this year. It is believed that both building materials and labor have reached a solid basis and that this level will be maintained for at least another year. As stated in a previous letter, the town of Petersburg now has on its hands the greatest building boom in many years and a large number of new houses are in course of construction in that town.

Henry C. Kleymeyer, president of the Standard Brick Manufacturing Company and head of the Chamber of Commerce at Evansville, has launched a movement for the building of a large municipal beach on the Ohio River at Evans-

ville that has received the endorsement of the Evansville Kiwanis Club and Mayor Benjamin Bosse. It is expected that plans for the beach will be worked out within a short time.

Clarence Schutz, president of the Best Brick Company at Evansville, in company with his wife, left a few days ago for Connecticut, where they will spend the rest of the heated season.

A report from Shoals, Ind., a few days ago stated that the Lloyd Brick Plant of that city, that has never been operated, is expected to start operations by the first of the coming year, making paving and building brick and tile.

The plant of the Hydraulic Press Brick Company at Porter resumed operations on July 11, after a short shut-down. A force of sixty men is employed at the plant. The company is now manufacturing a hollow brick and building tile and later will start making other kinds of brick.

Aaron M. Weil, pottery manufacturer of Evansville, returned a few days ago from French Lick, where he spent several days with his wife.

The Crown Potteries Co., one of the big institutions of Evansville, has enjoyed a big trade since the opening of the World War and the closing down of the potteries in Europe. The business is conducted upon a most conservative basis, under the management of A. L. Davidson. The plant is located on Outer Division Street in Evansville and is one of the largest of its kind in the United States. The company enjoys a trade that extends to all parts of the United States. The company makes the finest, as well as what is known as the commercial ware, and there is a designing room in connection with the plant, where the decorated ware is prepared by a corps of skilled artists. New designs in the ordinary ware are made by Thomas Swift, who learned his trade in England and came to Evansville when a young man.

Work has been started on the five buildings of the large United States hospital at Dawson Springs, Ky., a few miles south of Evansville. This is one of the biggest building jobs to be done in western Kentucky for several years past. A great many brick and other building materials will be used on the job. The big power plant is now well under way and work will be pushed on other buildings.

A. HOOSIER.

#### THE ARMY OF CLAYWORKERS

THE STATISTICAL abstracts of the United States for 1920 show that there is employed in the making of brick and tile, terra cotta and fire clay products, 100,182 wage earners, and in the pottery industry, 26,705 more. A listing of the number of employes by months shows that the maximum was reached in June in brickmaking with a total of 123,877, while in pottery the maximum was reached in April with a total of 27,301. The employment in the pottery industry is fairly steady, varying but little from month to month. In clayworking the variation is wide, the lowest month being February with a total of only 76,458. The months of heavy employment are April, May, June, July, August and September. The let-down in employment during the winter months seems to be about twenty to twenty-five per cent., which puts the industry in the class of those of seasonable employment, yet the variation is not wide in comparison with those of the building industry proper. There is enough, however, that we may give some thought to the question of how to improve it by seeking to furnish employment steadily the year round.

The slogan of the day in the business and industrial world is that you must either make good or make room for someone else who will make good.





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

#### Who Makes a Yellow Brick?

Editor The Clay-Worker:

Do you know of a brick concern manufacturing a real yellow brick? We do not want a buff colored brick, but one that is yellow.

Yours truly,  
Oklahoma. AMERICAN BRICK & TILE CORP.

#### New Kentucky Brickmaking Plant.

Editor The Clay-Worker:

We are enclosing check for year's subscription to The Clay-Worker. We are going to build a small brick plant here and will be in the market soon for equipment for same, either new or second hand.

WILLIAM ARCHER.  
Williamsburg, Ky.

#### Pennsylvania Brick Manufacturers Running to Capacity.

Editor The Clay-Worker:

Glad to know you are sending us the back numbers of The Clay-Worker. The brick and tile trade in our section at present is somewhat slow. However, we are running our plant to capacity and have orders booked to keep us busy for the remainder of the season. The present price of our vitrified building brick at the plant is \$15.00 per thousand; rough texture brick \$30.00, and paving brick is \$35.00.

Yours truly,  
Scranton, Pa. PETER STIPP & SONS.

#### Conditions Improving in Colorado.

Editor The Clay-Worker:

Enclosed find draft for subscription to The Clay-Worker for one year.

Construction of school and other public buildings have given us a splendid business this year. Private enterprises are but few in this vicinity, but conditions in that respect are improving.

FORT COLLINS PRESSED BRICK & TILE CO.  
Colorado.

#### Reduction in Brick Prices in Georgia.

My Dear Friend Randall:

I want to thank you for the enlargement of the snapshot you took of me when down here the last time. I, too, am sorry you did not have better luck with your picture, but you must come down soon again, and make another try. We all enjoyed your visit with us so much, and regret you could not have remained longer, so we could have given you more attention. Hope you will stay longer the next time and we will try to make your visit enjoyable.

Business continues dull and prices have been cut to the core by some of the manufacturers in the state, as low in some instances as \$6.00. We have not gone into any such price cutting and the price in our immediate section is \$10.50 at the plant for kiln run. Certainly hope business will improve and that shortly, so we can at least get the cost price

for our product. The whole situation, as I see it, rests on over production these dull times.

With warm cordial regards and best wishes,  
Sincerely yours,

Columbus, Ga.

GEORGE O. BERRY.

#### Building Trades Slack in Sweden.

Friend Randall:

I thank you very much for your letter of June 3rd and the advertising matter for pushing brick. Some of these I may have use for, translated and altered into Swedish style and I am sure you will not mind it.

We are in a very slack time just now. Money is very dear and scarce. People don't know what rent they can get from new houses erected and the costs of labor and material are not fixed. Before all these things are settled you can not expect any natural speculative building trade. I think this condition will at least last a couple of years and during the meantime industry, not only the building industry, has to "sit down and wait." A rather awkward position for what is born never to sit down but only go forward. I am very glad to see that you expect very soon a building boom in the states and I am sure that the same will come here, but much later.

I just had the pleasure to see two English men in the brick industry here last week, Ex-President Heaton, I. B. C., and his brother and they seem to have about the same opinion regarding the prospects in England as above mentioned regarding Sweden.

We are in good health and I hope this will find you and yours in same good condition. With kind regards,

Yours very truly,  
Sweden. G. WSON CRONQUIST.

#### War Is Over But Some Don't Seem to Realize It.

Editor Clay-Worker:

I am connected with the fire brick business and it seems to me that some of the manufacturers of machinery and equipment are "delaying the game" by failing to recognize the fact that the war is over and make such reductions in the cost of machinery and equipment as the lower cost of material and labor will permit. I have been told by a number of men in the fire brick trade that they are delaying purchases of needed machinery and supplies until there is a readjustment of prices. There has been a great reduction in the price of high grade refractories; silica brick selling during the war at \$55 per thousand, now selling at \$35 and fire clay brick are now selling at \$40 that formerly brought \$55, that is when they are sold at all.

The industry is "flat," manufacturing at from 8 to 15 per cent of capacity and shipping at the same rate. From what I can hear, it still has some money left out of the profits of the past few years and it is very probable that some of this money would be spent at the present time in the installation of labor saving machinery were it not for the fact that the impression has gone abroad that this is a bad time to buy equipment, because present prices are so high.

Manufacturers of refractories are, in a great many cases, using brick yard labor to construct new sheds, new buildings and new kilns; one well known manufacturer closed down his plant and offered employment to all of his men who were willing to go out and build a golf course at 25c an hour; he would not ask them to make brick for that, but it offered something to tide them over.

So you have an industry with initiative, capital and ample time to improve its equipment but delaying the work because



it feels as though replacement parts were held at exorbitant figures instead of being inventoried at replacement values. Probably no other branch of the clayworking industry has this combination of capital and leisure.

It seems to me the foregoing facts ought to be considered by the machinery and supply equipment firms and their price list changed according to the present status of business. Otherwise when the steel furnaces begin to start up and the demand for fire brick becomes sharp and insistent, there will not be time to install some of the equipment which might easily be under way at the present time. A wink is as good as a nod to a blind horse. The machinery and supply people can get business now if they go after it in the right way.

Respectfully,

KEYSTONE.

#### Muffle Kiln Versus Direct Fired Tunnel Kiln.

Editor The Clay-Worker:—

I note that my article in the May issue seemed to stir up some comment on tunnel kilns (or what should be more properly called railroad kilns), and I am glad to see the matter opened up for discussion.

Our friend Hartford makes some very broad statements about what "can" be done in a direct fired kiln, in the way of burning low-grade material, but he in no place indicates where such installations can be seen, and inasmuch as I was born and raised in the "Show-me" state, I will be very much pleased to have him show me, or name me, one single instance in which a direct fired kiln was or is a success on burning the coarser wares made out of ordinary shale or surface clay.

During the last twenty years I have made a close study of the two kinds of continuous kilns—the one with the stationary ware and the moving fire, and the other with the stationary fire and the moving ware—and from my own personal observations, I think that the latter type, or what is known as the railroad kiln, is the kiln of the future, and might go further and say that of the two types of railroad kiln—direct fired and muffle fired—I think that it is only a question of time until the muffle fired type becomes standard in the burning of all of the coarser wares.

Will be glad to have Mr. Hartford point out to me, just one single installation in which a direct fired kiln is satisfactorily burning ware made out of ordinary clay.

There is no question that the direct fired kiln can burn successfully, high burning range stuff, such as is usually used in refractory and pottery ware, but it is yet to be demonstrated that they can equally successfully burn material with ordinary or short burning ranges.

In the July issue, Mr. Tracy is of the opinion that the muffle kiln is more complicated than the direct fired kiln, and nothing could be further from the truth, as the muffle kiln, through its uniform heat zone, is under more certain control than the direct fired one is, and outside of the muffle feature in the fire zone, there is very little difference in either type.

It is unquestionably true what Mr. Tracy says about needing a better grade of skilled men to operate the railroad kilns as against periodical kilns, but one of the things that the brick and tile industry need most, and have needed for years, is higher trained and educated men. After a railroad kiln has been gotten satisfactorily started, it then becomes a matter of ordinary routine, to keep it going in that way, but the custom of taking a clay pit shoveler and putting him in charge of a railroad kiln is one that will have to be changed on the modern railroad kiln plant.

A man buys a ten-thousand-dollar automobile, and hires the best chauffeur that he can get to run it, but he will build

a hundred-thousand-dollar brick kiln, and take a chance on hunky or wop or some syncopated nigger, to operate it.

The time has come for the manufacturer who has in operation a tunnel kiln, to secure a competent man in charge of its operation, and to pay such a man a salary commensurate with the responsibility involved. Some manufacturers save a thousand dollars a year in yard salaries, and lose ten times that much as a result of having low-grade, low-priced men in charge of their business.

In conclusion I will say that it has been demonstrated beyond any reasonable doubt, that the muffle fired kiln is now successfully burning both common building tile, drain tile, and common clay building brick, while there are no cases on record where the direct fired kiln is doing this.

Our friend Tracy states that we have not pointed out any of the disadvantages of the railroad kiln as compared to the periodic, and will say that there are a few, but they are far overbalanced by the good things about the kiln, that they are not worth much worry.

One of the few disadvantages is that in the event you want to shut down your plant, you lose a certain amount of heat in doing so, but in a down draft or other periodic installation, you lose heat every time that you close up a kiln, so it is about as broad as it is long.

On common, face, and tile, the ware can be transported direct from the kiln to the railroad car, or to stock, without any rehandling, this being a big figure in the cost of delivering the burnt ware to its point of stock or into transit.

It is only a question of time before all brick and tile-makers must come to this form of burning apparatus or shut up shop, as their competitor operating with one of the kilns, necessarily means that they will have to do the same to produce the lower cost ware.

Yours very truly,

JAMES P. WILLIAMS.

Consulting Engineer.

#### A Plea for Better Freight Rates

Editor The Clay-Worker:

I have noticed several articles in The Clay-Worker regarding excessive freight rates, and also noticed that a committee, members of the N. P. B. M. A. was appointed to interview the Interstate Commerce Commission on that subject, but which proved fruitless. This of course is discouraging, but let us not give up the fight this early in the game. There is a solution, let us find it. I have been fighting the railroad companies myself, but you know a small concern is handicapped in the hands of such an organization as a railroad company.

I am a great believer in co-operative organizations, and while I am not a member of any brick manufacturers' association I would not turn down an opportunity of becoming one.

I live down here on the Mexican border, with a plant which has a capacity of 30,000 brick per day, but shut down two-thirds of the time due to excessive freight rates, which makes us unable to compete with a hand-made brick made on the banks of the river.

I am going to give you an illustration of what the railroad company charges my company to haul our brick certain distances. For a nine mile haul we are charged .05½ per hundred pounds, our brick weigh 4¾ pounds, we will base our figures on a car of 15,000 brick, this car would weigh 70,250 pounds at .05½ per pound would equal \$38.63 or \$2.57 per thousand brick.

For a sixty-five mile haul we pay .08 cents which would figure \$56.20 per car or \$3.74 per thousand brick.

How do these figures compare with those up there?



Can you conceive of such freight rates when, first, the railroad company has no expense for loading or unloading; second, they run no risk of a damage suit; third, no one is going to steal brick, because what little could be stolen would do no good.

Can anyone mention one single article where the carrier is running less risk than when handling brick? If so I want to hear him.

I do not want you to think that I am seeking publicity, but I am doing this for a comparison and suggestive means of getting our freight rates where they belong.

Thanking you for an early reply, I am,

Yours for reduced freight rates,

A TEXAN.

#### Business Improving.

Dear Mr. Randall:

Enclosed find check for renewal of my subscription to The Clay-Worker. Business conditions in certain localities are very bad, but on the whole business is on the upward grade. We base this, of course, on the results we are getting in our business. The greatest difficulty just now is the labor problems.

We are looking for the best year in 1922 we have ever had, and we are going after it strong. Don't you think we are right?

Sincerely,

JAMES B. CROWELL & SONS.

Wallkill, N. Y.

#### ST. LOUIS BRICK MEN GIVEN CLEAN BILL BY ATTORNEY GENERAL.

In an investigation that has resulted in the uncovering of evidence to indicate that at least three material dealers' associations in St. Louis have been guilty of unlawful combinations for the restraint of trade, according to Attorney General Jesse W. Barrett of Missouri, and which put several other associations under suspicion, the brick companies of the state have come out with a clean slate and the attorney general has found nothing on which to base any prosecution against this branch of material dealers of the state.

Mr. Barrett said he was satisfied in his own mind that the brick companies were not competing but he was unable so far to discover any evidence of price fixing agreements between the brick manufacturers of the state. This statement from the new attorney general, who says he is determined to enforce at all times during his term the laws against the restraint of competition in Missouri, comes as a tribute to the brickmakers of the state, when he declares he has ample evidence to find other firms guilty of violations of the trade laws of the state.

Brick concerns in Missouri have strong executive staffs in all instances and from all facts that can be gathered they are conducting their business in an open, straightforward manner and at no time have made any steps that would put them in bad with the prosecuting arm of the state official machinery. Consequently it is gratifying to the brick men to know that their escutcheon has been declared clean by the man who says he is determined to go after all unlawful material building combinations in the state. It is just another evidence of the splendid forces that go to make up the brickmakers' personnels in Missouri.

#### EXPORT AND IMPORT FIGURES

In the statistics of our foreign trade furnished by the Department of Commerce for the fiscal year ending with June we find exports of nearly a million dollars worth of

our clay, the exact figures being, fire clay, \$387,926; other clays, \$583,938.

This looks cheering and helps to counterbalance our imports because we still have clay imports. The showing for the fiscal year is, imports of china clay or kaolin, \$2,811,509; common blue and bauxite, \$471,452; all other clay, \$557,555. In other words, we have nearly four million dollars worth of clay imports against which we have exported a little less than a million. This leaves the balance against us, but it is a very good showing compared with olden times.

Under earthenware exports we have what seems to be a very good showing, the total being \$9,784,556. The major item in this is fire brick, which makes a good showing for the fiscal year with a total running well above four million dollars, and constitutes nearly half of our total exports in brick products. Sanitary ware, china and stone ware and tiles each run above a million.

We imported earthen, stone and china ware to a total of \$13,020,937. The larger items being decorated china ware coming largely from England and Japan.

#### GREENPOINT FIREBRICK CO. USING NEW CUTTING TOOL.

THE PROBLEM of cutting firebrick into required sizes without the necessity of constructing a special mold for the particular size desired, appears to be in process of solution as a result of extensive experiments which have been conducted recently by a well-known manufacturer of firebrick. C. C. Cooper, president of the Greenpoint Firebrick Co., which has culminated in the finding by Mr. Cooper of a tool which cuts the brick to the required size.

For years this problem has been a source of great concern, not only to the manufacturers of the firebrick but also to contractors, builders and owners of plants for which special sizes of firebrick, particularly small sizes, were required in a hurry. Heretofore it has been necessary usually to construct a special mold to make the required size firebrick, and this ordinarily takes at least four weeks. Attempt have been made to chisel larger firebricks down to the specified size, but these attempts usually resulted in complete failure, as the brick cracked and crumbled under the attack of the chisel.

Mr. Cooper announces that the special tools which have now been evolved will cut the brick to any desired size, and will do it without any damage resulting to the brick, which, when cut, is entirely satisfactory for the work required of it. Many a concern which has in the past been forced to wait a month or more when ordering a special size of firebrick, will greet this news with gratification, as it will be enabled to get the brick immediately by the new process and no delay will be caused the work at hand.

The new method replaces both the making of special molds and the crude cutting which has been attempted in the past. It is a saver of both time and money. The new cutting tools will be ready for use within two weeks, and the Greenpoint Firebrick Co. will then be able to take orders on short notice for special sizes of brick under the new conditions. The Greenpoint Fire Brick Co. is the only firm manufacturing firebrick in Greater New York using this method.

The firebrick industry has shown considerable improvement since May 1, declared Mr. Cooper, who is very optimistic about the future. The Greenpoint Fire Brick Co.'s orders are chiefly devoted to factory and steamship trade, and the resumption of production in many plants has brought with it many orders for new firebrick construction within the plants.

We should not let the interest in good clay burning wane, but should add to it the realization that good clay handling both before and after burning is essential to economy in manufacture.



Written for THE CLAY-WORKER.

OHIO CLAY NOTES.



N IMMENSE CLAY and coal merger, capitalized at \$2,250,000, involving eight producing mining properties and at least one clay products company, was announced recently. The merger will be known as the H. C. Schneider Sewer Pipe Company. It has acquired the business property and assets of the Horger-Heldt Coal Co., this city; The Cleveland Macksburg Coal Co., The Helen Coal Co., The Lakewood Coal and Supply Co. of Cleveland, the marketing organization of W. P. Kaiser, the Goshen Valley Mines and all other coal, clay and shale interests of H. C. Schneider. Officers of the new company are: H. C. Schneider, president; J. U. Horger, vice-president; N. C. Parr, secretary; A. S. Rippeth, treasurer. The merger is practically a reorganization of the H. C. Schneider Sewer Pipe Co., which has increased its capitalization to \$750,000 of preferred stock and 15,000 shares of no par value common stock.

The combined acquired assets approximate \$1,650,000 and the company by the sale of its preferred stock and a portion of its increased common stock, proposes to provide sufficient capital to operate several sewer pipe plants similar to the Schneider plant.

The coal properties will be under the personal supervision of J. U. Horger and the sewer pipe operations will continue under the supervision of H. C. Schneider. The combined sales and output of the company will be under the supervision and direction of W. P. Kaiser of Cleveland. T. T. Orr, formerly general auditor of the Horger-Heldt mining interests, will occupy a similar position with the merger.

The H. C. Schneider Sewer Pipe Company's plants are located at Goshen and plans have been perfected to quadruple sewer pipe production, which will give the company a 70-kiln output per month.

General offices of the company will be maintained in New Philadelphia, with sales offices in the Williamson Building, Cleveland.

There has been no cessation of activities at any plant of the Robinson Clay Products Company during the period of industrial depression, from which this district is slowly emerging, H. W. Morgan, salesmanager of this concern told The Clay-Worker scribe recently.

"Our concern has done exceptionally well in the face of present-day conditions and we have managed to obtain a fair volume of business. Officials of the company regard business in the past as being satisfactory and in all probability our plants will continue to operate at the same capacity or even better later on," Mr. Morgan said. "The fire brick demand with us is holding up well and the sewer pipe business continues to improve. Inquiries are becoming more frequent and every indication points to an improvement in the brick and sewer pipe industry."

The Robinson Clay Products Company is one of the largest concerns of its kind in the middle west. Its leading products are fire brick and sewer pipe. The company has plants in Midvale, Dover, Malvern, Mogadore and Akron, O., and Clearfield, Pa.

The will of John Merley, late head of the Mapleton Clay Products Co. of Canton, has been admitted to probate, giving his wife the entire net income of his estate during her life and providing that in no event shall her income be less than \$3,000, and that if the income of his estate is not sufficient to pay that sum the deficit shall be made up out of the principal. His wife is also given the use of the homestead during lifetime.

Upon the death or remarriage of his wife the estate is to be divided among the brothers and sisters.

Marley's associates in the Mapleton Clay Products Com-

pany are given the option of purchasing the stock in that company at its book value. The total value of the estate was reported at \$100,832.91.

A brick and tile plant is to be established at Woodsfield, Ohio, to manufacture brick for use on Monroe County roads. The capital stock will be \$75,000.

Miller and Vevard of Toledo, new owners of the Bloomdale Tile and Brick factory, began making tile the middle of July, it is announced by officials of the company.

Sales department and office management of the Chelsea China Co. is in charge of Will A. Rhoads, formerly of East Liverpool, but more recently with the jobbing firm of Frank M. Milliken, Wood Street, Pittsburgh.

The first chamber of brick in the new, continuous gas-fired kilns at the No. 2 plant of the Alliance Brick Co. was closed recently. The first brick, of a deep, dark cherry red color, clean burned and free from discoloration of any kind, was taken out the second day after.

This chamber, or kiln, of brick fulfills the promise of the Ceramic Engineering Company of Columbus, who designed and superintended the construction of this producers' gas-fired continuous kiln, that ware produced in it would be a beautiful color and high grade in every particle. This method of burning not only produces very superior ware as to color, cleanliness and perfection of burn, but it burns brick with less than half the coal consumption of the ordinary old style round or rectangular down draft kiln.

The new plant of the Alliance Brick Co. on Mahoning Street has been practically completed. Sixty men are employed.

The record shipment of its product, face brick, attained in July when one and a half million were shipped, will be surpassed this summer by the Belden Face Brick Co. of Canton, Ohio, which has a plant at Port Washington, near here.

"The peak of production has not been attained," said an official of the company, who stated that there are orders ahead for several months. The best previous month's shipment was in June, 1920, when one and a quarter million brick were shipped.

The McLean Fire Brick Company of Wellsville was given judgment Tuesday in the common pleas court of Columbiana County at Lisbon against the First Baptist Church here for \$1,146.75.

The amount was found by the court to be due upon a note given by the local church last November to the brick concern. The note was for a period of ninety days, becoming due in January of this year, according to evidence submitted during the court hearing.

The National Brick Co., Strasburg, Ohio, put into effect August 2 a wage cut of five cents an hour. They had been paying 35 cents an hour, which is higher than any other brick plant in this vicinity.

The National Fireproofing Co., New Philadelphia, discontinued operations August 1, to resume in a month or so, after a new steel trestle has been built there at an approximate cost of \$8,000.

When the four kilns at the Stone Creek Brick Company plant at Stone Creek are completed, it is planned to install machinery to manufacture brick, for eight additional kilns to be built and also for factory buildings. Two kilns have been completed.

The fire brick industry at the present time is at low ebb. Most of the plants in this district are stocked with manufactured products.

BUCKEYE.

Extend to the salesman calling to sell you machinery and supplies the same courtesy you would have extended to your salesmen on the road selling your products.



Written for THE CLAY-WORKER.

# PACIFIC COAST NEWS.



RANGE COUNTY, California, in the vicinity of Los Angeles, is in line to become one of the great china producing districts of this country, and for more than a year James H. Hill, president of the Alberhill Coal & Clay Company of Los Angeles has been having research work done upon a very fine china clay deposit located about thirty miles from the Alberhill plant. Exacting tests have been made on the new clay, with the result that translucent china, electric light shades and fixtures of the highest quality have been made, and experienced clay and pottery workers

are of the opinion that southern California may become an important center for the manufacture of fine chinaware. Formerly almost all china clay was shipped to this country from well-known companies in England, because it was thought that American clay was not of the right quality for translucent china. Consequently England, France, Holland and other countries of central Europe led in production of the finer wares.

The manufacture of electric light insulators is another clay product which the Alberhill company is featuring and the development of which bids fair to be of great importance on the Pacific coast. Roy Williams, a former expert insulator man of the Westinghouse Company of Pittsburgh, Pa., has been secured as manager of the department.

Eastern manufacturers will be interested to know that the Alberhill company expects to make a general distributing center from the new deposit and that a special freight rate of \$7.50 per ton has been secured from steamship companies via the Panama Canal.

The Los Angeles Pressed Brick Company has installed a new labor-saving device in the way of a series of huge clay storage sheds and modern conveying machinery and their completion will mean the elimination for all time of the slower and more expensive method of removing clay from cars by man-power. By the new method five men will be able to do the work of forty—a great saving in the time spent in handling the raw product.

The Los Angeles Pressed Brick Company also has a plant at Santa Monica, Alberhill and Point Richmond, California, while it controls plants in Arizona, New Mexico, Nevada and in Mexico and Central America. The president of the company is Howard Frost, who has been very active in the movement for better homes, inaugurated through the American Institute of Architects.

Brick and plaster are coming into favor as building materials in the cities and towns of northern California. On account of the extreme dryness of the climate in summer the fire record in the desirable districts of Oakland, Berkeley and Alameda is higher than is pleasant to think about. Heretofore lumber has been the chief building material simply because lumber is accessible and less expensive. But prospective builders are coming to realize that living in a wooden house in a very dry climate is too much of a hazard and consequently there is an increasing interest in non-inflammable materials.

Although brick building in general is rather quiet in the vicinity of San Francisco, there is an increasing demand for hollow tile in the construction of dwelling houses. The fact that there is a saving in weight and that the dead air space makes the building cooler in summer and warmer in winter is appealing increasingly to residents of the bay district.

From San Jose comes the report that the famous old

Remillard pottery and brick kilns will soon be reopened. Owing to a lack of transportation facilities the plant has been off the working list for several years, but a spur track has at last been run to the very doors of the plant and it is expected that work in the kilns will soon be resumed.

Carpenteria, Calif., is to have a new brick and tile factory which will cost about \$37,000 and will employ at the start about twenty men. Building operations are going forward rapidly and it is expected that the plant will soon be in working order.

A new and very interesting use for clay has been found by the California Master Products Corporation in the manufacture of soap from a composition of colloidal clay. A 100-foot shaft in a rich vein of soap clay about 140 miles from Los Angeles, has uncovered the valuable deposit. A fine grade of soap which the company has made from this clay is now undergoing tests and if the tests prove satisfactory Los Angeles is in line to enjoy further industrial expansion.

The California Pottery Company of Oakland is registering satisfaction as regards the prospects of its plants in both Oakland and Fresno and is now enlarging its activities in the form of a new plant which is now in process of construction near Merced. It will consist of sixteen 30-foot down-draft kilns and will manufacture everything in the clay products line, and when complete will be one of the most extensive plants of its kind on the Pacific coast. The first unit is virtually completed and operations will begin as soon as practicable. The Oakland plant of the company will undergo reconstruction within the coming year and a new structure will be built which will be devoted to the manufacture of higher grade articles, such as a complete line of stoneware.

That Seattle, Wash., would be a most desirable location for a poreclain enamel plant has been suggested recently to the Seattle Chamber of Commerce by A. S. Steele, former secretary of the Washington Water Power Company of Spokane. According to Mr. Steele there is at present no porcelain enameling plant west of St. Louis.

San Francisco, Calif.

SUNSET.

## PUBLICATIONS

Among the interesting publications recently received is one on community accomplishments which is a report of the Pittsburgh (Kansas) Chamber of Commerce and portrays something of the enterprising progress of the citizens of that live western town.

Circular No. 9, University of Illinois. This is a pamphlet which tells of the functions of the Engineering Experiment Station of the University of Illinois, at Urbana, prepared by Charles Russ Richards, Director of the Engineering Experiment Station and Dean of the College of Engineering. It tells of the industrial research work, the department for training men in research work, and outlines a definite form and contract plans for co-operative research with industries.

Tiles, publication No. K200, prepared by the Associated Tile Manufacturers, Beaver Falls, Pa. This is a pamphlet of basic information on ingredients and process, of grades, sizes, shapes, colors, finish, etc. It is issued for the use of architects, engineers and educators and should prove of value in acquainting them with the characteristic sizes, shapes and colors of tiles, method of production and use, etc. It is profusely illustrated and charted and is copyrighted by the Associated Tile Manufacturers.

Vitreous Enameling of Iron and Steel. Clarence J. West has compiled for Arthur D. Little, Incorporated, Cambridge, Mass., a reading list on vitreous enameling of iron and steel in pamphlet form. In the preface the statement is made that the subject is very well covered up to 1906 by the bibliography of clays and the ceramic arts compiled by John C. Branner. The reading list compiled by Mr. West therefore begins with 1907 and is brought as near up to date as practical, including books and periodical literature on the subject.



## THE TRADE QUIZ BOX.

Many readers of *The Clay-Worker* are wont to ask the editor for information on various matters pertaining to the brick and tile business. Usually such questions are answered by letter on the theory that the party asking the question is the only one particularly concerned, but many times the queries are of a general character and cover points in the trade in which the general reader may be interested, so we have inaugurated a Trade Quiz Box. Under this head, questions and answers will be given and any reader who can give further particulars in response to any particular query, or desires information on any phase of the business, is invited to make use of this department.

### TEMPERATURE AT WHICH CHINA WARE IS BURNED.

**QUESTION:** Can you give me the average temperature at which decorated china ware is burned in the final process?

**ANSWER:** The degree of temperature at which decorated china ware is burned in the bisque kiln is in the neighborhood of 2250 degrees Fahr.

The ware is then removed, brushed off and dipped and is then placed in the glost kiln. The temperatures in the latter kiln are approximately 2250 degrees F. However, these temperatures depend upon the location of the couple and the sensitivity of the clays. Sometimes a thermo couple might be installed in a location where the flame plays directly on the end. Naturally this would make the couple reading on the pyrometer much higher. It is necessary, where they have this condition, to definitely figure out how long it takes to saturate the ware so the operator of the kiln can set a foundation on which to work. This saturation point is only attained by locating a thermo couple in the mass of material where the flame does not strike it, and as the clays absorb the temperature, the couple being located in the mass will give the correct temperature at the correct time of absorption.

In regard to the decorating kiln, I might mention that for gold it is necessary to just soften the glaze so that the gold and floral decorations become imbedded in the glazed ware. The following cones are used with the comparative temperature readings given alongside and are generally used in decorating heats:

| Cone   |        | Temp.    |
|--------|--------|----------|
| .015 ) |        | 1472° F. |
| .014 ) |        | 1526° F. |
| .013 ) | Gold   | 1580° F. |
| .012 ) |        | 1634° F. |
| Cone   |        | Temp.    |
| .011 ) |        | 1688° F. |
| .010 ) |        | 1742° F. |
| .09 )  | Decal. | 1778° F. |
| .08 )  |        | 1814° F. |

I might mention that the Dressler Tunnel Kiln is a very good kiln for china ware, as it is an indirect fired kiln, and the flame does not strike the ware. Where a tunnel kiln is not used and the bottle shaped kiln is used, it means that it is necessary for a man to control his temperatures uniformly on all six or eight fire boxes, but at the present time there are very few people watching their temperatures so closely. I have taken numerous readings on different types of kilns which showed a great difference in each fire box. The temperature, for instance, over one fire box would be 1700 degrees and the box on the opposite side would be registering a temperature of 2200 degrees F.

Some day when I have an opportunity I may install an equipment with the thermo couple located over each fire box

and one long thermo couple inserted down the center of the kiln. The idea of the thermo couple in the center of the kiln would give the actual time it took the ware to become saturated. The fire box temperature would give you more evenly distributed heat.

THERMO.

### CAPACITY OF KILN FOR HOLLOW TILE.

**QUESTION:** Can you tell me what amount either in tons or pieces of 5x8x12 building tile is the average capacity of a 30-foot down-draft kiln? We are especially interested in hollow ware, and if you can give us also the capacity of a 30-foot down-draft kiln with 4x12x12 and 6x12x12 tile, we will greatly appreciate the favor.

**Answer:** The tonnage in a 30-foot kiln varies with the block—the thickness of the wall, the number of bridges in the tile, and the character of the shale or clay. The usual estimate is 100 tons of hollow blocks in a 30-foot kiln, and it may run as high as 110 tons. The height of the setting and the height of the kiln permitting high setting are often the limiting factors.

### MISSOURI FIRE BRICK PLANTS FAIRLY BUSY.

The plant of the Fulton (Mo.) Fire Brick Company, which has been running full time during the month of July bids fair to continue in operation for the present at least, according to officials of the company. The business outlook is only fair, it was reported at the office of the company, although orders have been coming in fairly steady and have been on a character of goods that have enabled all departments to keep going. C. O. McNamee, manager of the company, has just departed for the west on an extended trip in the interest of the company in the hope of securing additional orders. The company's major business is furnishing linings for locomotives that burn oil and the general unsettled business conditions, which has effected the railroad business, curtailing operations of many trains, has also resulted in a lessening of orders from this source. The resumption of operations at the plant during the month of July came after a short period of inactivities, during which the plant was closed.

Based on a policy of foresight and what A. P. Green, president of the A. P. Green Fire Brick Company, Mexico, Mo., described as cutting out everything in the way of "luxury," the large force of the company has been kept practically intact during the present business depression and almost all of the men have been working part time, sufficiently to meet their current expenses. The payroll of the company has been cut from \$60,000 to \$20,000 a month but the money has been distributed in such a way as to the most good.

Last winter both plants of the company ran full time until the first of March, giving the men steady employment through the winter months and putting a large stock of brick in storage at the plant and entailing a large investment of money.

L. U. Nickell, president of the Fulton Fire Brick Company, Fulton, Mo., who has been active in civic affairs of this city, was recently elected president of the Fulton Commercial Club and also chairman of the executive committee of the Red Cross organization in Callaway County, two of the most important positions in the city. His greatest achievement lately was to help manage the big barbecue at the monster Fourth of July celebration in Fulton at which 100 sheep were barbecued. It was the biggest stunt of the kind ever pulled off in the state.

C. C. McNamee, general manager of the Fulton Fire Brick Company, Fulton, Mo., was honored recently by Gov. Arthur B. Hyde, the newly elected Republican Governor of Missouri, by being named as one of the members of the board of managers of the Missouri School for Deaf, located at Fulton, one of the largest and most important state educational institutions of Missouri. At the reorganization of the board Mr. McNamee was further honored by being elected president of the reorganized board.



Written for THE CLAY-WORKER.

### THE NEW YORK SITUATION.



RELATIVE DULLNESS that was becoming apparent to a large extent has been lifted. The feeling is growing for big business. There are multitudes of plans out for estimate, and architects report plenty of work as in contemplation. Some large contractors are working twelve and fourteen hours a day, every day in the week, in order to keep ahead of the rush for figures. In some instances these projects go ahead, but in the majority of cases it seems as though they are to be held in abeyance until the late winter or early spring.

The prices of burnt clay products have not varied to any great extent. Some jobbers are afraid to quote on future prices beyond the fifteenth of November, preferring to name quotations on immediate shipment. Some reserve was reported, but it is not of a size to warrant very much comment. Some parts of the districts surrounding this center are being invaded by New England brick. The latter is preferred at times to the North River production. In some instances New England brick can be put on sidings at a margin below what it costs to place North River stock in the same location. New Haven brick were quoted at the close for \$17.25 f. o. b. cars at the job site. While North River stock runs to \$20 to \$22 delivered, this would make a big difference on a 500,000 brick operation.

Hollow tile remains in demand to a very large extent. Prices vary with the length of haul and the quantity desired. The sizes desired mostly are the four and six-inch partition blocks, scored two sides. Occasionally demand is felt for partition tile scored one side and smooth one side, which would tend to indicate alteration work, with an extension due in the future.

One large eastern manufacturer of hollow tile refused to give quotations on 811 hollow tile scored two sides in quantities up to 10,000 square feet, claiming his stock was entirely depleted.

The prices quoted are anywhere from eleven to fourteen cents per square foot at the job for four-inch partition, fifteen to fifteen and a half cents for six-inch, while eight-inch is quoted twenty-one to twenty-five cents at the job. Three-inch runs from ten to eleven and a half cents, according to haul and quantity.

Face brick remains in demand to a large extent. The dark reds are the most in demand, but there is some leaning toward the lighter shades, but the inquiries are generally for the darker reds, which are quoted in the neighborhood of \$40.00 per thousand. The residential work that is progressing so rapidly on Long Island, accounts for a great deal of the activity.

Manhattan's sister boroughs are very busy with the tenement house and housing problems that are an outcome of the tax exemption law. Out of the average of thirty-two cargoes arriving alongside the docks around New York, fully sixty per cent. of this amount is used by the sister boroughs. Some cargoes are taken direct to Brooklyn and in that way materially help, but the larger number are unloaded in New York and carried to the job site.

The question is often asked what is wrong with business? It seems the basic difficulty today is that we are trying to run both business and industry by the votes in Congress, judges, labor unions and by Boards of Directors rather than return to the fundamental and natural law of enterprise. It seems we are trying to make cork sink, stones float, water run up hill and prices remain fixed when these things should not be.

The Onondago Pottery Co., Syracuse, N. Y., is having in-

stalled a continuous type of tunnel kiln and are planning to have it completed before cold weather sets in. They have always had the ordinary periodic kilns, but the company, after making a careful study of those employed elsewhere, came to the conclusion that the continuous type with a few modifications would be the most profitable for their use.

During the week of September 7th, the annual exposition of the National Chemical Industries will be held in New York, at the 8th Coast Artillery Armory, Kingsbridge Road and Jerome Avenue, where plans have already been made for more than four hundred exhibits. In their letters to the trade, the Association has informed the exhibitors that there are no posts or obstructions of posts and pillars in the Armory. This will give a clear view of the entire place and show the exhibits to good advantage.

At the present time the supply of brick from the Haverstraw plants is greater than demand, though there are several dealers holding options on up to 1,000,000, to be used for factory work in different parts of New Jersey, shipments to be started as soon as the strikes in the many building branches are all satisfactorily settled and workers have come to an agreement on a new wage scale. Some branches have signed contracts, but others are still in a controversy. The latest price quoted from the factory was \$15.00.

Hackensack brick has been delivered on the job for \$16.00, by truck, in the northern part of the state.

Many expressions of sympathy have been received by the family of the late Patrick McCabe, who passed away very recently. Mr. McCabe, previous to his retirement, was for several years manager of the Donnelly Brick Company's yard at New Britain, Conn. He was also interested in politics and served upon many city boards.

The Whitman Electric Mfg. Co. has completed the installation of two new kilns, at their plant at Whitman, Mass., to produce their own electrical porcelain products, such as receptacles, rosettes and other specialties.

The Atlantic Terra Cotta Co. has located in its new offices in Borden Building, at 350 Madison Avenue, New York City, and is prepared to transact any business therefrom.

A. L. B.

### CROSBY JOINS CELITE ORGANIZATION.

Mr. E. S. Crosby, sales and advertising manager for the United States and Cuban Allied Works Engineering Corporation, has resigned to become manager of the Eastern District of the Celite Products Company, producers of the well-known Sil-O-Cel insulating material, and Filter-Cel, the ideal filtering medium. Previous to his service in France with the army, he was assistant sales manager for the De Laval Steam Turbine Co. of Trenton, N. J. Mr. Crosby will make his headquarters at 11 Broadway, N. Y.

### THE REFRACTORY TRADE

While in general reports of trade in fire brick products speak of conditions as being dull and draggy the outlook is really not as pessimistic as it seems.

One trouble with the refractory industry is that it is spoiled by several years of unusual activities and any normal business period seems exceedingly dull in contrast.

We need not expect a return of the strenuous days of the near past, not anyways soon at least. We should attain a good normal volume of trade in fire brick products during the latter half of the year. The steel industries and other major users of refractory products have been in slow gear for some time, but they are gradually getting under way, and as the outlook for future business improves with them they



will incline to re-equip and fit their plants for future business and this in turn will stimulate activity in the movement of fire clay products. So the fire clay outlook on the whole is much more cheerful than the present trade reports seem to indicate.

Written for THE CLAY-WORKER.

CINCINNATI BRICK AND BUILDING NEWS.

IT HAS been mighty hot and very dull in the building industry here in the past month. Not that there is any significance in the heat as applied to the demand for clay products, for summer is the most propitious time for a larger activity ordinarily, but this year has been different. It has been hotter but also less active, so that the usual condition has been reversed to a degree that has not been very welcome to the clay products manufacturers and dealers. The only way to account for the general inactive condition must be attributed to two rather significant factors, prices on materials and labor, and the lack of business in practically all lines.

When the general business conditions are not right there is sure to be a very keen reflection of this noted in the building industry, for the public apparently lose heart and refuse to build when the industrial conditions are not very vigorous. But added to this is the fact that, despite the lack of any appreciable demand, the prices have maintained a rather high figure, and the labor end has been slow to react from the steep figures which have been very detrimental to the supply men. Had the labor element been willing to concede something in this way there would have been a much larger building period, for after all the big part of the cost of structural work now pertains to the part that labor has to do with this industry.

The matter has been considered by the grand jury here, and it is said that some action will be taken very shortly by way of investigation, but as to what the outcome will be it is hard to determine now. In the meantime the prospective builders are to a great extent withholding their work, and it seems that the year will pass without very much progress being made in this way.

Reports among the clay product manufacturers and dealers are not very flattering now. While it is true that there are a large number of prospects, and that much work seems to be waiting, the attitude of the large majority of the owners is to withhold any real effort until there has been some more favorable aspects to the situation in all respects.

While the building permits for the month of July show some improvement over the same month last year, the sum total is not of the pleasing kind. There were 1,407 permits issued for all kinds of work, and this includes alterations and repairs. The estimated cost of the improvements is placed at \$1,467,345. The same month a year ago shows that there were 1,192 permits issued, representing a cost of \$1,285,757. For the first seven months of the year there have been 10,134 permits issued, the cost of the same being \$10,140,665, as compared with 7,984 permits, costing \$9,236,797 for last year.

From reports it seems that there is little to expect in the way of wage reductions here by the building industry before October 15, even should one be ordered. Owing to the fact that the employers and employes have not been able to reach an agreement the matter is to be left to an outsider for determination. The party decided on by both sides, Rabbi David Philipson, will not return to the city for some time and on this account it is not expected that any decision can be reached before some time in September so that the

reduction, if such was suggested, could not take effect until the following month.

Bernard T. Wisenall, architect, has been commissioned to prepare plans for a new market house for the city of Covington, Ky., to cost about \$150,000. It will be built on the site of the present market house at Seventh street and Madison avenue. The name of the concern to build and operate the market is known as the Market Finance Corporation. It will be two stories of the old mission type with stucco over brick. It will have a roof of red tile, and will be modern in all respects, containing a number of booths for various lines of merchandise.

Plans have been completed for the new home of the Business Men's Club, to be built at the northwest corner of Race street and Garfield Place. It will be eleven stories, and contain all the late and helpful features to make it an ideal structure of its kind. The plans were drawn by Architects Samuel Hannaford and Sons, with Garber and Woodward as associates. Work will be started with the adjustment of the building situation.

Contracts are soon to be awarded for the building of a passenger station at Covington, Ky., by the C. & O., and L. & N. R. R. Companies. The station will be located at Pike and Russell streets, and will cost about \$80,000. It will be modern in all respects.

The report with the Busse Brick Company at Latonia, Ky., is to the effect that there is being one plant operated, but the demand for brick is dull now. The indications do not seem to offer much in the way of business for the remainder of the year.

The Moores-Coney Company say that there are a number of inquiries but not a great many orders for brick these days.

CINCY.

AUGER MACHINES.

The Chambers Bros. Co., Philadelphia, Pa., has recently mailed the trade two bulletins. Bulletin No. 51 illustrates and describes their Royal Pattern Auger Machine, while in Bulletin No. 52 information is given regarding their Keystone Pattern Straight Barrel Auger Machine. This has been designed expressly for working shales and hard clays that have been ground and screened or subject to the customary dry pan preparation.

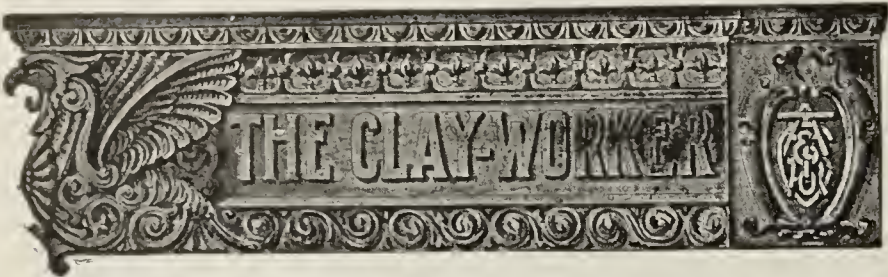
ARE YOU TRYING TO CLIMB?

Are you trying to climb where the chosen are,  
Where the feet of men are few?  
Do you long for "a job that is worth one's while?"  
Well here's a thought for you:  
The pots of gold at the rainbow's end  
Are sought by the teeming mob,  
But the fairies who guard them, choose as friend  
The man that loves his job.

No matter what grip of hand he has—  
How poor or strong his brain  
There's always a place for the man who loves  
His work with might and main.  
Does he dig in a ditch, or blaze a trail,  
Where the dreams of men may run?  
No clod of earth shall shoulder him  
From his place out in the sun.

It isn't the kick, it's not the pull,  
That brings the strong man out;  
But it's long-time work, and it's all-time will,  
And the cheerful heart and shout.  
Have you faith in yourself? Do you want to win?  
Is your heart for success athrob?  
There's just one thing that can bring you in  
With the winners—love your job. —Exchange.





Entered at the Indianapolis postoffice as second-class matter.

A Practical Illustrated Monthly Magazine, devoted to Brickmaking and allied Clayworking Arts and Industries.

Title registered, contents copyrighted.  
THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

TERMS OF SUBSCRIPTION:

|                                             |         |
|---------------------------------------------|---------|
| One copy, one year (in advance)             | \$ 2.00 |
| One copy, one year (if not paid in advance) | 2.50    |
| Six copies, " " " " " "                     | 10.00   |
| Ten copies, " " " " " "                     | 15.00   |

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ADVERTISING RATES

Furnished on application. The CLAY-WORKER is unquestionably the most effective medium in its field, and character and circulation considered it is the cheapest. To insure insertion in current issue, advertising matter should be sent to office of publication on, or before the first of the month.

Correspondence on all subjects of interest to Clayworkers solicited. All communications should be addressed to  
211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 76. August, 1921. No. 2

CURRENT COMMENT.

Let's make Happiness the home brew.

\* \* \*

Build a home and Build it of Brick and be happy.

\* \* \*

In business ad-ventures are good things to stimulate trade.

\* \* \*

One of the vacation thoughts is, that sometimes it rests a man to do something foolish.

\* \* \*

One good way to learn what your customers are thinking about is to get them talking and listen to them.

\* \* \*

The spring drain tile trade hit a drouth in the summer but it ought to liven up during the fall and winter.

\* \* \*

A paragraph complains that most of the price cutting so far seems to have been done with a safety razor.

\* \* \*

One of the things which Edison proves with his questions is that it is impossible for any man to know everything.

\* \* \*

Put a little more pep in and punch behind the sales drives and there will soon be an end to this talk of slow business.

\* \* \*

Mortar coloring is now appreciated as playing a really important part in the beauty element of brick and tile wall faces.

\* \* \*

Because you think business is dragging is no excuse for being draggy yourself. A little more ginger and the dragginess will soon disappear.

A little science in business management is good, and so is a little horse sense.

\* \* \*

Brick porches and brick veneered walls are signs of the day which point toward more brick and hollow tile walls in the future.

\* \* \*

With the end of the vacation season let us also put an end to loafing and slow business talk and settle down to earnest effort.

\* \* \*

The man who has been looking forward to good trade in the fall and preparing himself accordingly will be playing in luck unless the signs read wrong.

\* \* \*

The statistical abstract of the United States for 1920 shows clay products with a total value of \$364,220,000 and raw clay sold to a total of \$12,094,000.

\* \* \*

This thing of taking the consumer into your confidence sounds better in oratory and looks better in print than it works out in the every day details of life.

\* \* \*

It is about time for the railway folks to learn that high passenger rates do not encourage travel, and burdensome freight rates tend to reduce the volume of shipping.

\* \* \*

The initials J. B. used to stand for John Barleycorn, but in the latest slang of the day they stand for "Jelly Bean," meaning a man who is soft or jelly-like in his head.

\* \* \*

Sometimes after reading a lot of the propaganda sent out we get the impression that the railroad folks are protesting too much about the doings of others and not doing enough themselves.

\* \* \*

The first of September may bring melancholy days, but it will also bring a readjustment of our clocks so that the days will start evenly among both the city people and the country folks.

\* \* \*

There is no need for any quarrel between brick and hollow tile because there is plenty of room for both and the efforts of all should be turned toward developing the big field of possibilities in better building.

\* \* \*

It seems a lot easier to reduce the price of brick manufacturing to normal than it is to reduce the high cost of brick-laying to what one considers a reasonable basis. An average wage of \$9.60 a day is pretty good pay for any mechanic.

\* \* \*

The old fashioned working man used to send his son to college so he could get an education and have an easier time of it and make more money. Today the professional man feels more like sending his son out as an apprentice that he may soon be wearing silk shirts and drawing big wages.

A HALF YEAR IN BUILDING

Notwithstanding the many complaints of housing shortages and the slow progress of building operations the first half of the year, the actual record is fairly encouraging. Not only were there greater activities in June, the last month of the first half of the year, but a summing up of the building contracts for the first half of the year by the F. W. Dodge Company makes a very good showing.

The figures compiled by them cover twenty-seven states in the northeastern quarter of the United States and the total



is the largest for any year except that of 1920. The record shows a total of contracts awarded from January 1 to July 1, 1921, of \$1,066,256,000, which is more than double any year previous to the war and which included an unusual percentage of residential buildings. Residential buildings make up about a third of the total and amount to more than any two other classifications combined.

Taken all together and considering the circumstances the showing is very good and every indication points toward even a better showing during the last six months of the year. Those producers of brick and hollow building tile who are prepared to meet the demand will likely reap their reward and find plenty of business doing throughout the late summer and fall season.

#### YOUR OWN COMMUNITY

Among some enterprising clayworkers visited during the month there was found a vision. A vision of developing better and more permanent building in their own home surroundings as preferable to developing the manufacturing idea purely for magnitude and sales to distant points. It is a good vision, one that other clayworkers may well give thought to. There is in every community opportunities for development of the clayworking industry in the future through encouraging better and more permanent building. Not only will trade development in your home surroundings help solve the freight and transportation problems, but it will also reduce the friction of sharp competition and result in more benefits to yourself as well as the up-building of the community.

#### CONFLICTING BUSINESS IDEAS

There is noticeable today quite a tendency on the part of some authorities to urge industrial consolidation for the sake of efficiency in management and sale and distribution. They urge this as a solution of the present-day problem of reducing cost burdens. On the other hand some of the larger institutions of the country have been suffering so from depression that some of the smaller and less cumbersome institutions seem to have the advantage for the time being. In a word, while there is some tendency toward consolidation on the one side, there is noticeable a counter current toward decentralization for the sake of better contact, and so it goes. Out of these conflicting ideas we are getting something of a mix-up in re-adjustment plans, but as business improves all around and people get busy we won't be worrying much about which is right and we will probably find, too, that a whole lot depends upon local conditions and circumstances.

#### CLAY NOMENCLATURE

A simple everyday definition of clay is a soft earth which is plastic, or maybe molded with the hands, consisting of hydrous silicate of aluminum. The term clay as used in the clayworking industry is sometimes used generally to distinguish clay products from cement products, plaster products, etc. Again there are times when the term clay used in connection with a product raised quite a lot of discussion and because of this there is now some effort being made to standardize the nomenclature, fire clay and shale.

Those who attended the recent annual conventions will recall that questions have been raised to the matter of using the term clay as a qualifying word for flue linings and a number of other products commonly referred to as clay products. For example some want the term fire clay in specifications for flue linings while some show an interest in having shale identified and others incline toward the general term of clay. The same questions of distinction arise at

various times in connection with clay products which may be made from various clays, from fire clay or from shale.

Committee E-8 on nomenclature of the American Society for Testing Materials has this subject under consideration and perhaps will develop something definite and satisfactory out of it. Meantime to some the term clay will mean anything or all of the various raw materials used in the clayworking industry, while to others it means only the soft substance used without special qualifications.

#### ROAD AND STREET GRADE DRAINAGE

Among the things which stand out plainly in the studies and discussions presented of road making and street making is that proper drainage comes under the head of first essentials. Generally, too, this means an under draining with tile as well as open ditch draining on the side. We are told among other things that the bearing capacity of soil of the clay type decreases as the moisture increases and that sometimes it is advisable to mix sand with such clay types to facilitate the natural removal of moisture even when drainage systems are provided. Always, everywhere, however, drainage is essential and it is up to our drain tile people to keep this fact before road builders and to keep developing positive knowledge of the kind of tile to use and how to use it to properly drain any given kind or type of roadway.

#### THE UPS AND DOWNS OF PRICES

There have been many efforts by students of the times to review and chart the ups and down of prices, wages and production and consumption, now and in comparison with other periods in the history of the country during the past hundred years in the hope of getting some line on what should logically transpire in the near future.

One of the most pretentious of these is a review of price changes and business prospects, by Leonard P. Ayres, vice-president of the Cleveland Trust Company, published in pamphlet form. Mr. Ayres reviews and charts prices, wages, cost of living and fluctuations in business through various periods, some of them extending back as far as 1810 to cover the war of 1812. In the matter of wholesale prices he makes this prediction:

"There is much evidence to indicate that the general trend of prices will be irregularly downward for a period of years to come, just as it was after the two earlier great increases. One reason why we may expect this lies in the very fact that prices are and have been high. Another is to be found in the world's decreasing production of gold. A third lies in the enormous losses of lives and property in the past few years, with the accompanying disorganization of the world's industrial power. A fourth is in the depreciated currencies of the world, which the stronger nations will endeavor by every means in their power to stabilize and make more valuable."

#### MINIMUM WAGE IDEAS

There are many converts to the idea of establishing minimum wages, and a fair number of advocates of laws for this purpose, among them being Jeannette Rankin, who has served in Congress but is now field secretary of the National Consumers' League.

Perhaps the most interesting opinion on this subject is one reported as having been handed down recently by Judge Wilfred Bolster of the Supreme Court of Massachusetts, who was called upon to arbitrate between the Boston newspaper owners and the local typographical union. It seems there was involved here a question of a minimum wage, based on



living cost, and the Judge in his reply to this is quoted as having said:

"I mean this: I will not arbitrate your demand for a minimum wage until you supplement it with an agreement for minimum production. I deny your right, as against the public, to set up half an issue for settlement. I deny the right of the publishers to join issue with you on your one-sided demand as you have formulated it. I will not stultify myself by saying what is a fair share for you to take out of the community wealth as wages when there is no stipulation as to what you will put back by your labor."

#### BRICK IN FAIR DEMAND IN ALABAMA.

John W. Sibley reports that brick is in good demand in Birmingham, particularly in the face brick line. Mr. Sibley recently made a trip to Memphis, Tenn., and New Orleans, and found building operations in both cities quite brisk, considering other business conditions. He says the building game in the South seems to be making progress in many directions, and the outlook is altogether what should be considered good.

#### CERAMIC DAY AT THE CHEMICAL SHOW.

THE AMERICAN CERAMIC SOCIETY will be represented at Booth No. 451 in the National Exposition of Chemical Industries to be held in New York, the week of September 12th. A larger booth than usual has been secured at considerable expense in order that same may be headquarters for members at the Exposition, whether they be visitors or exhibitors, and where small committee meetings may be held. Friday, September 16, will be Ceramic Day, and will be a most important day for Society members. In the afternoon the program will be devoted to ceramic and chemical papers and discussions, while in the evening there will be picture films on the industry. Mr. Ross C. Purdy, the new Organizing Secretary, will be at the Exposition the entire week, and Miss Norah W. Binns, the Assistant Secretary, will be in daily attendance at the booth.

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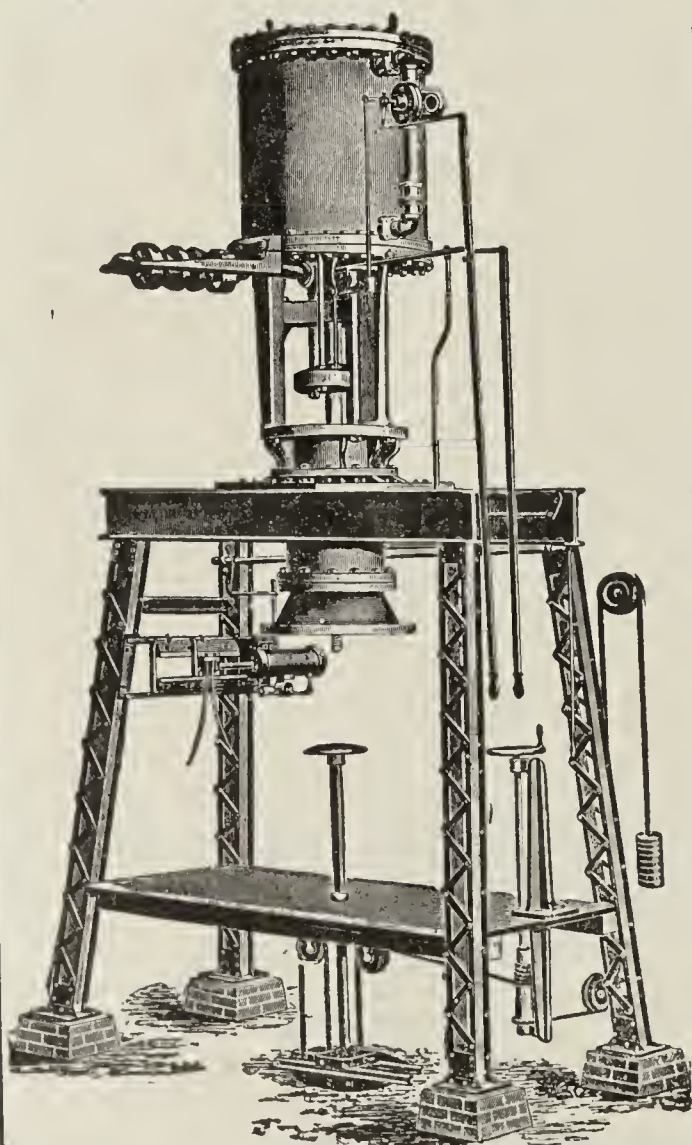
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## MAKE THINGS OF CLAY THE PIONEER WAY

**MACHINERY WE MANUFACTURE:** Single and Double Acting Presses (4 sizes), Dry and Wet Pans (3 sizes), Clay Crushing Rolls (3 sizes), Gravity Elevators, Chaser Mills, Wad Mills, Clay-working Dies of every kind and description, Storage Feeders, Flying Feeders, Piano Wire Screen, Factory Equipment.

#### REFERENCES (Partial List)

|                                                                 |                                                        |
|-----------------------------------------------------------------|--------------------------------------------------------|
| W. S. Dickey Clay Mfg. Co.,<br>Kansas City, Mo.                 | Streator Drain Tile Co.,<br>Streator, Ill.             |
| Gladding-McBean Co., San Francisco, Cal.                        | National Drain Tile Co., Terre Haute, Ind.             |
| The Denny-Renton Co., Seattle, Wash.                            | Wm. E. Dee Co.,<br>Mecca, Ind.                         |
| The Alberta Clay Products Co.,<br>Medicine Hat, Alberta, Can.   | Hancock Brick and Tile Co., Findlay, O.                |
| The Ontario Sewer Pipe Co.,<br>Milmico, Ontario, Can.           | Buckeye Fire Clay Co., Uhrichsville, Ohio              |
| B. C. Potteries Co., Victoria, B. C.                            | Uhrichsville Clay Mfg. Co.,<br>Uhrichsville, Ohio      |
| Sidney Island Brick and Lime Co.,<br>Sidney Island, B. C.       | Robinsons & Sons Co., Uhrichsville, Ohio               |
| Tropico Clay Prod. Co., Los Angeles, Cal.                       | Robinson Clay Products Co., Akron, Ohio                |
| Big Horn Clay Products Co., Lovell, Wyo.                        | Windsor Brick Co.,<br>Akron, Ohio                      |
| The Red Wing Sewer Pipe Co.,<br>Red Wing, Minn.                 | Shawmut Clay Co.,<br>Shawmut, Pa.                      |
| The Lehigh Sewer Pipe and Tile Co.,<br>Lehigh, Ia.              | Union Sewer Pipe Co., McKeesport, Pa.                  |
| National Sewer Pipe Co., Webster City, Ia.                      | Winslow & Co.,<br>Portland, Me.                        |
| White Hall Sewer Pipe and Stoneware<br>Co.,<br>White Hall, Ill. | N. Y. State Sewer Pipe Co.,<br>Rochester, N. Y.        |
|                                                                 | Atlantic Terra Cotta Co.,<br>Perth Amboy, N. J.        |
|                                                                 | Georgia Vitriified Brick and Clay Co.,<br>Augusta, Ga. |

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# The HADFIELD-PENFIELD STEEL CO.

BUCYRUS OHIO, U.S.A.

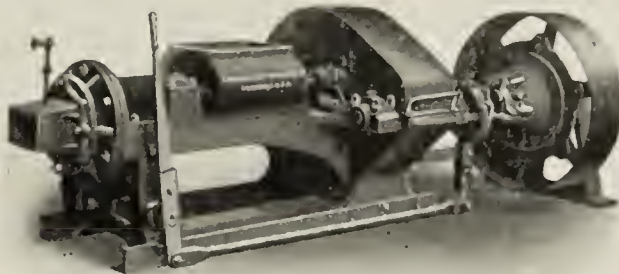
AMERICAN No. 740 SEWER  
PIPE TRUCK



Will handle large range of pipe. Easily adjusted for different sizes. Well balanced to make load light. Handles pipe without damage. This is a strong truck. Nothing to get out of order. Get description and price. We have a full line of sewer pipe machinery and appliances.

THE HADFIELD-PENFIELD  
STEEL CO.  
Formerly  
The American Clay Machinery  
Company.  
Bucyrus, Ohio.

AMERICAN NO. 328 AUGER MACHINE.



This is a "Big Little" machine. It will do All Round Work. It's built for service. Send for Specification Sheet.

THE HADFIELD-PENFIELD STEEL CO.  
Formerly  
The American Clay Mch. Co.,  
Bucyrus, Ohio.

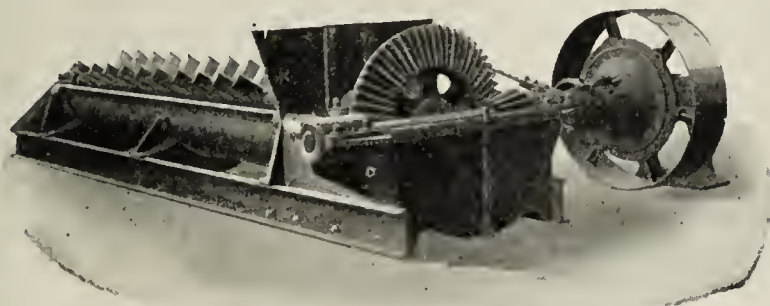
AMERICAN SEWER PIPE PRESS FEEDER.

This Feeder regulates the feed of prepared clay to the Sewer Pipe Press. It is a splendid, well built machine. You ought to read up on this machine. Circular free.

THE HADFIELD-PENFIELD  
STEEL CO.,  
Bucyrus, Ohio.



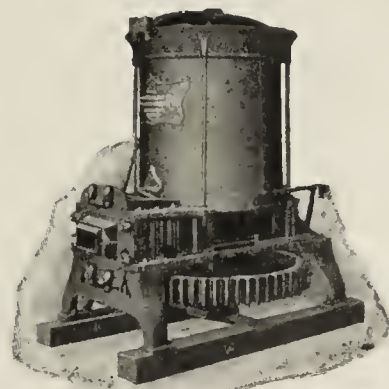
AMERICAN No. 357 GRANULATOR.



This is a bevel geared machine with a one piece casting base. It has large shaft, ample bearings, large shell, special metal in gears and and knives. Get a bulletin on this machine.

THE HADFIELD-PENFIELD STEEL CO.,  
Formerly  
The American Clay Machinery Company,  
Bucyrus, Ohio.

AMERICAN PLUNGER  
MACHINES.

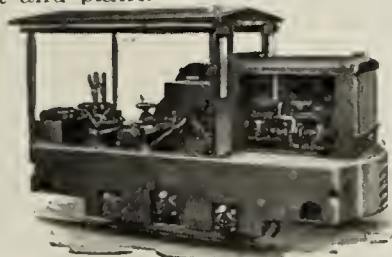


The American line of plunger machines and appliances includes everything from the largest steam power machines to the horse power pattern. Our appliances are superior and include cutter, dies, trucks and all other equipment. Catalog on request.

THE HADFIELD-PENFIELD  
STEEL CO.,  
Formerly  
The American Clay Machinery Co.,  
Bucyrus, Ohio.

AMERICAN GASOLINE LOCO-  
MOTIVE

Cheap, reliable haulage for clay  
pit and plant.



THE HADFIELD-PENFIELD  
STEEL CO.,  
Bucyrus, Ohio.

THE HAIGH KILN.

The Haigh Kiln Saves Half the  
Coal, Saves Half the Labor.

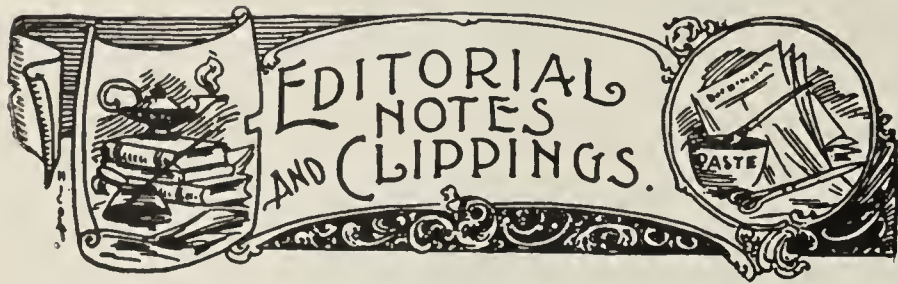


THE HADFIELD-PENFIELD  
STEEL CO.,  
Bucyrus, Ohio.

# The HADFIELD-PENFIELD STEEL CO.

BUCYRUS OHIO, U.S.A.





H. H. Robinson, of Elizabethtown, N. C., is in the market for a small brick machine to be run by horse power.

The Streator Clay Manufacturing Company's plant at Streator Ill., closed down the middle of the month for an indefinite period.

The Southern Brick Co., Bristol, Tenn., is being organized by Charles T. Kilgore, Bristol, and associates, with capital of \$90,000, to manufacture brick, tile and kindred products.

The Shankey & Sander Brick Company, of Haverstraw, N. Y., has been incorporated with \$15,000 capital stock. J. I. Shankey, S. W. Murphy and J. S. Regan are the incorporators.

The Hercules Brick Company, of Dallas, Texas, of which A. B. Saling is manager, has its new plant well under way. They hope to have same completed within a month or six weeks.

The plant of the Halleysburg Brick & Tile Company, Halleysburg, Ontario, Canada, was almost completely destroyed by fire early in July, entailing a loss of \$22,000. The fire is supposed to have been of incendiary origin.

The Cisco Clay & Coal Co., Cisco, Tex., has plans under way for the erection of new works for the manufacture of brick, tile and kindred products. It will be constructed in units, and later a second section will be erected for the production of face brick, etc.

Harbison-Walker Refractories Co., Pittsburgh, has declared the regular quarterly dividends of  $1\frac{1}{2}$  per cent. on the common and preferred stocks. The common dividend is payable September 1 to stock of record August 20 and the preferred October 20 to stock of record October 10.

Formerly the Alger Clay Manufacturing Company, Alger, O., the company now is the Clark Supply Co. and its capitalization has been increased from \$12,000 to \$36,000 which will be used in expansion of the organization. C. C. Clark is president and treasurer and H. G. Clark, business manager.

The Pacific Clay Products Co., American Bank Building, Los Angeles, is completing plans for its new plant at Los Nietos, Cal., for the manufacture of firebrick and other refractory products. It will replace the plant recently destroyed by fire and will have an initial daily output of about 25,000 firebrick.

The Cary brick plant at Newton Hook, N. Y., was damaged to the extent of \$50,000 by fire July 28th, which originated in the furnace room and burned from early evening until the next morning. The largest portion of the loss is to the machinery. Operation will be resumed as soon as the insurance is adjusted. William N. Cary, of Albany, is the owner of the plant.

A. A. Gast, who has been operating a tile mill at Akron, Ind., for thirty years, has sold his business to Albert Snerr, of Rochester, Ind.

Two men were killed and a third injured when a stick of dynamite exploded prematurely at the Medal Paving Brick Company plant at Cleveland recently.

The plant of the Duro Brick Manufacturing Co., of Cuyahoga Falls, Ohio, which was destroyed by fire the latter part of July entailing a loss of \$75,000, is to be rebuilt at once.

The Gadsden Clay Products Co., Gadsden, Ala., has been incorporated with a capital of \$25,000, to manufacture building tile and kindred specialties. Robert Riley is president, and Gordon Hood, treasurer.

The Onondaga Pottery Company, of Syracuse, N. Y., recently celebrated its fiftieth anniversary by a picnic which was participated in by the officers and employes on the site of a new factory which the company will build.

The Harbison-Walker Refractories plant at Blandburg, closed since April, resumed operation August 8, giving employment to 150 men. The concern manufactures fire brick used in steel mills. Wages will be reduced 10 per cent.

The Interlocking Tile & Sewer Pipe Co., Indio, Cal., has been incorporated with a capital of \$250,000 to manufacture tile, brick, sewer pipe and kindred products. J. A. Gordon is president; J. P. McNally, secretary, and J. W. Wilson, treasurer.

The Superior Press Brick Company, of St. Louis, Mo., are now making Super-Tex rough and smooth face building brick at their stiff mud plant, for which they are having a good demand. The output of this company is handled by the Illinois Supply Company, of St. Louis.

Bricks, tiling and other similar clay products will be manufactured at Amarillo, Tex., in big works to be established by the Panhandle Brick & Tile Company, which has been incorporated by A. S. Stinnett, W. C. Pope, H. R. Boyle and others. The capitalization is \$80,000.

Professor C. W. Parmelee, of the Illinois State University, Urbana, Ill., has under way a survey of Jackson County, that state, to determine where there are any deposits of valuable clay in that county. W. H. Hill, of the Murphysboro Paving Brick Co., Murphysboro, is chairman of a committee having the work in charge.

Fire of undetermined origin late in July destroyed the brick plant in the Kansas State Penitentiary at Lansing. The loss was estimated at \$25,000 by R. H. Hudspeth, acting warden. Trustees aided by the Leavenworth fire department, kept the flames from spreading to the state twine plant and the ward for the criminal insane, which for a time were threatened.

The Austin Clay Works, Austin, Minn., was almost completely destroyed by fire recently, causing a loss of about \$125,000, partly covered by insurance. The fire started in the main building which contained all of the machinery. M. S. Fisch, president of the company at once started plans for rebuilding the plant. The company had many orders on its books, and the rebuilding of the plant is being rushed as rapidly as possible.

## UNLOADING FOR 3 CENTS PER TON



Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.

**The Columbus Conveyor Co., Columbus, O.**

## Webster's Continuous Down Draft and Continuous Muffle Kilns.

Patented in United States, Canada and Great Britain. Marvels of ingenuity and simplicity. Pronounced by experts to be the most perfect and cheapest kilns to construct and the most economical to operate, ever invented or put upon the world's markets.

Equally as economical for burning any class of goods from common bricks to the highest grade ceramics, glazed ware, etc.

### HENRY WEBSTER AND SONS,

628 Lexington Avenue, Newport, Ky.

Kiln specialists and consulting engineers. Forty years of practical experience in clay products industries and continuous kilns.

Members N. B. M. A. U. S. A. Institute of Clay Workers Great Britain. Blue prints of kiln can be seen at Clay-Worker office, Indianapolis, Ind.



The Sheldon Brick & Supply Company, of Urbana, Ill., has been reorganized, and the plant which has been closed for three years has been put in operation. They will manufacture hollow tile as well as building brick. John B. Bennett is president; W. H. Lee, secretary, and C. Bongart, treasurer.

The Alton Brick Co., of Alton, Ill., has recently received an order for more than a million paving brick to be shipped to Nebraska. This order about cleans up the accumulated stock the company had on hand when the plant was closed down a short time since, and plans are being made for a resumption of plant operations in the near future.

The Sheridan (Wyo.) Pressed Brick & Tile Company is very optimistic in regard to revival in building activities in that section, and is getting ready for same. They recently completed a new kiln of 80,000 capacity, and are getting ready to fire same. The company manufactures face brick and hollow building tile, and this additional kiln enables them to increase the capacity of the plant. Carl Kneisel is the head of the concern.

Articles of incorporation have been filed by the Falls Brick & Tile Company, of Sheboygan Falls, Wis. The company is organized for the purpose of manufacturing and selling brick, tile and other clay products, the purchase and sale of fuel and other property that may properly be bought and sold for the advantage of the concern. Capital stock is placed at \$50,000 divided into 500 shares. Adolph O., Charles A. and Raymond Wachter are given as the incorporators.

Dr. Heinrich Ries, head of the Department of Geology, Cornell University, Ithaca, N. Y., an acknowledged authority on clays, is making an exhaustive survey of the clays of eastern Kentucky. He reports having found vast deposits of very high grade clay which when developed will greatly increase the wealth of that part of the Blue Grass State. The clays are suitable for the manufacture of brick, building, roofing, floor and wall tile, electric porcelain ware, pottery, china, etc. W. R. Jillson is the State Geologist of Kentucky.

A certificate for an amendment to the charter of the Watson-Fitzgerald Company, Danville Va., brick manufacturers, has been filed in the clerk's office of the corporation court. The papers petition for the right to increase the capital stock to \$150,000, \$75,000 of which will be preferred and carry a dividend of 10 per cent. It is also proposed to have the owners of 489 shares of the preferred shares in the present company now paying 7 per cent. to surrender them for which will be issued stock under the amended charter.

About a year and a half ago the Briggs Brick Company, Grand Ledge, Mich., purchased the face brick plant of the Baker Clay Company. They immediately started in to remodel the plant with a view of making it one of the best and most up-to-date face brick plants in that part of the country. The plant is now completed and fulfills the expectation of its owners in every respect. A large acreage of land has been stripped, uncovering vast deposits of shale, and under the shale are veins of good coal which may be utilized by the company. The company has put in a steam shovel, put in tracks, cars and a cable system. The old dryers were torn out, and gas dryers put in; six new kilns have been built; much new machinery installed, and a new gas producer built. The plant has a capacity of 50,000 per day and this can be increased as

occasion demands. The company has orders on its books now to keep it running for a long time to come.

When two new kilns in the process of construction at the yards of the Missoula (Mont.) Brick and Tile Company are finished, the plant at East Missoula will have a capacity of 160,000 bricks from each of the new kilns. However, at this time the plant is in operation and the daily output is 25,000 bricks. The plant is under the management of Anton Vogt & Sons, who recently purchased the yard from the General Securities Company. Mr. Vogt is widely known in the country as an expert in the manufacture of brick and is inventor of the Vogt Round Kiln.

We are told that the word strike was first used in London in 1765 when it is said that coal miners had "struck out" for higher wages. That makes one more of the unpopular things to charge against the coal business.

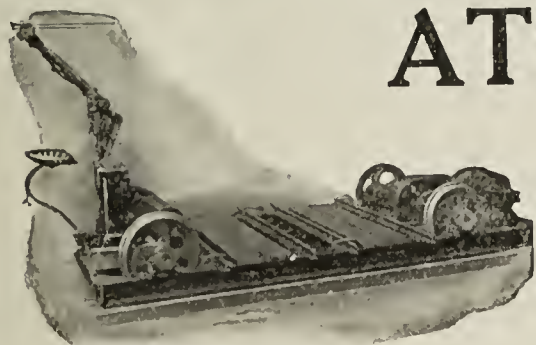
## CAN YOU USE FELDSPAR OR QUARTZ?

Why not locate near unlimited supplies of raw materials, in a region provided with abundant electric power at attractive rates?

Field investigations by our Company Geologist, thoroughly familiar with the mineral deposits of the region.

For samples, maps and detailed information in regard to deposits, transportation and power apply to

**Central Maine Power Company**  
**Augusta, Maine**



No. 913  
Double Truck Electric Transfer Car.

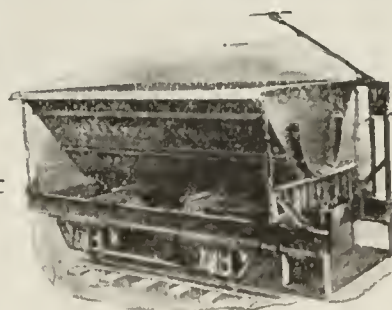
## ATLAS COST-REDUCING EQUIPMENT

Electric Transfer Cars  
Rocker Dump and Gable Bottom Cars  
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Tunnel Kiln Cars

Let us solve your haulage problems.



No. 217-EH  
Large Capacity  
Electric Side Dump Car.

**The Atlas Car and Manufacturing Company**  
Engineers      Cleveland, Ohio      Manufacturers

Mention THE CLAY-WORKER.



# BURN WITH OIL

SAVE FUEL  
SAVE TIME IN BURN

## Make Better Ware

Eliminate the troubles from sulphur and carbon in coal gases.

"Mack's SYSTEM" is proving a big success on many clay plants.

Let us tell you about "Mack's Hydro-Carbon Burner" and our system of burning.

**McFALL ENGINEERING CO.**

421 S. LIBERTY AVE., ALLIANCE, OHIO

Type "B"  $\frac{3}{4}$  cu. yd.  
ERIE Shovel, owned  
by McCrady Bros.,  
Braddock, Pa.



**"Very  
stiff clay,  
750 cu. yds.  
a day"**

"We have loaded, on the average, 750 cu. yds. of very stiff clay per ten-hour day.

We prefer the ERIE to any other shovel we have ever used. In our opinion the ERIE has everything else of her size beat a mile."  
*McCrady Bros., Braddock, Pa.*

The ERIE Shovel is both speedy and reliable.

It is built far stronger than the usual standard of steam-shovel construction.

We would like to send you a bulletin showing just what the ERIE shovel can do. Write for a copy of Bulletin "W."



**BALL ENGINE CO., Erie, Pa.**

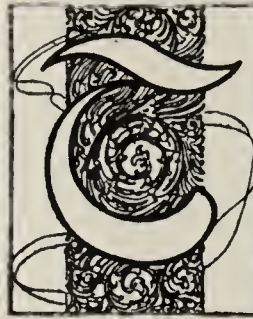
Builders of ERIE Steam Shovels and Locomotive Cranes,  
ERIE Railway Ditchers, BALL Engines.

**ERIE** Revolving Shovels

**BALL**  
Engine Co.  
Erie, Pa.

Written for THE CLAY-WORKER.

SEEN IN NEW JERSEY.



THE BOTTOM HAS DROPPED out of the market in common brick in New Jersey. Anyone having a large order to place can get their brick for almost any price they care to pay.

Prices have been cut in the Northern section of the state and there is very little business being placed at the moment. There are a number of inquiries being received, but most contractors are waiting until they are ready to break ground for the building before they place their orders.

There are no factories in the state working up to one hundred per cent. efficiency and as soon as a large order comes through the owners are forced to move it at any price to meet their pay roll.

At one of the common brick plants in Southern Jersey, a selling agent made inquiry for 1,000,000 brick. The manager told him the price would be \$12.00 f. o. b. factory. The man wanted the order and later offered to cut his price \$1.00 per thousand, but the agent stated he knew that when the brick were actually ordered he would get them for \$10.00 per thousand.

North River brick have been held up in price, being delivered on the job for \$18.00. Fifteen dollars is the price asked at the yard. As a lower price has been quoted, a reduction of \$1.00 a thousand was put into effect on the 10th of August.

Some of the Hackensack factories are selling at a loss and dealers say that if you have an order all that is necessary is to hammer away and you get your price. They deliver in Paterson, or the nearby vicinity 12,000 a day, or in eight hours. The price in each instance being below \$17.00.

Most of the common brick used in New Jersey are now being delivered by motor truck, or by water route if possible, due to the high freight rates.

Dealers are steering away from common brick sales where possible and spending their time with face brick, due in a large measure to the uncertainty of the market. The demand for face brick is for the full range of red tones. A new line to New Jersey has been introduced in a new line of red corduroys, which is receiving considerable attention by the large dealers in the northern part of the state. These brick at present are being taken in small lots for private residences and other small lot enterprises.

A large manufacturing firm in the northern part of the state is having controversy with the city authorities about enlarging their plant, to use between 40,000 and 50,000 red face brick, beside more than two million common. They are being matched up to those used in the old building.

There has been an outside broker endeavoring to secure a contract for terra cotta in the neighborhood of Paterson and offered to meet the price of the lowest bidder on the job, and then give \$15.00 from that price to the contractor, to keep the lowest bidder out of the territory. The price of the lowest bid for the terra cotta was \$33,000.00.

Two of the largest dealers in northern New Jersey, Campbell-Schultz Co., of Passaic, and E. M. Rodrock, of Paterson, are reporting large sales of red face brick in the full range, manufactured by the Bloomsburg Brick Company, of Bloomsburg, Pa., and are reporting some sales of Bradford red corduroys.

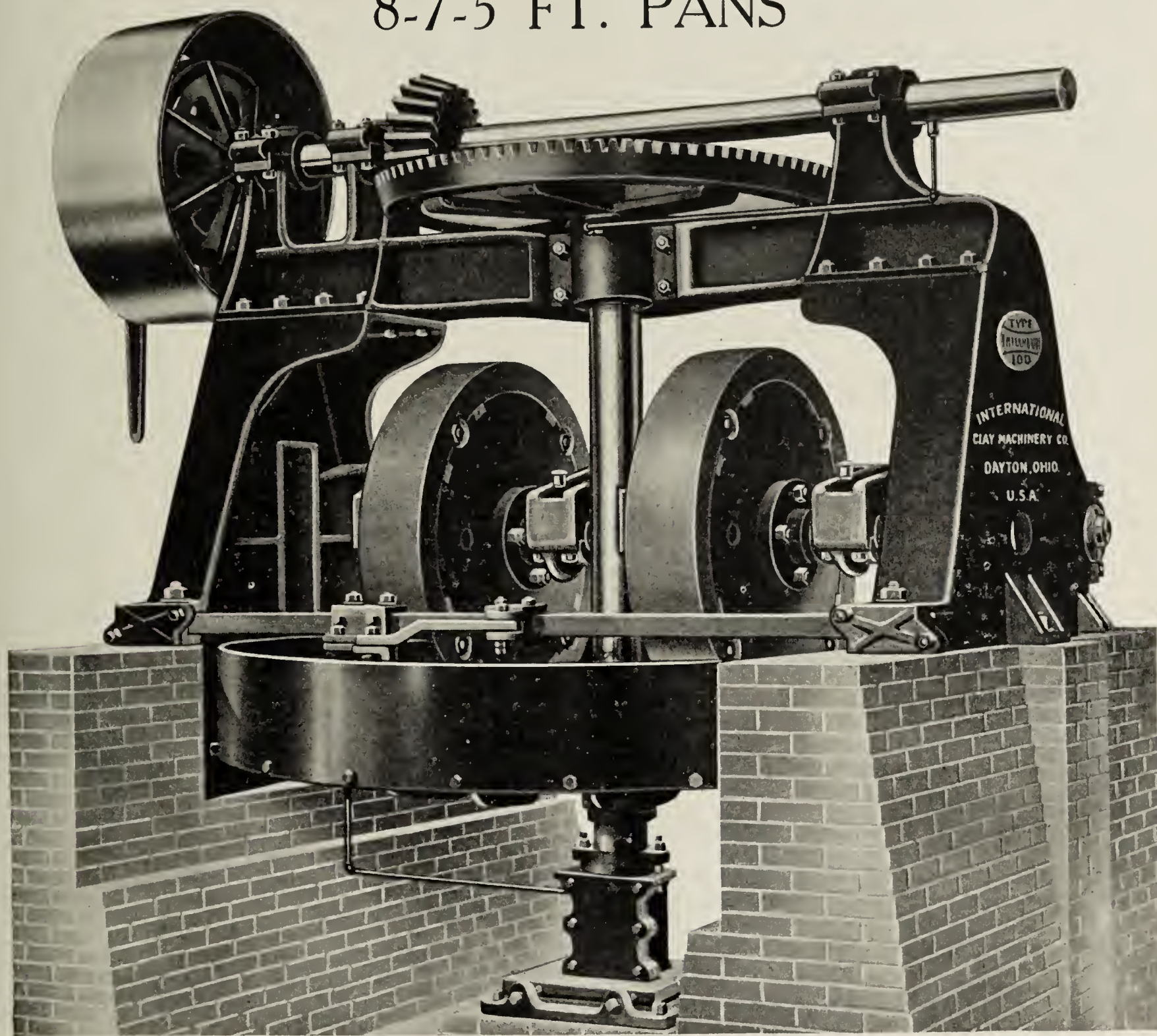
President Harding has appointed William Burgess, formerly of the International Pottery Company, Trenton, N. J., as the last member of the Tariff Commission. He was recommended for the vacancy because of his knowledge of tariff problems in the interests of the American potters, having de-

(Continued on page 178.)



# DRY AND WET PANS

10 and 9 FT. HEAVY DUTY  
8-7-5 FT. PANS



Low massive frames—wearing plates 1 inch higher than screen plates—Disc belled out at center—Mullers close to central shaft giving largest possible screening surface—three bearings on top cross rail—spherical bronze step that does not run hot. Write for descriptive Bulletin.

## International Clay Machinery Co.

Dayton, Ohio, U. S. A.

Pittsburgh, Pa.

New York

Toronto, Ont., Can.

Mention THE CLAY-WORKER.



# Look Ahead!

Now is the logical time to prepare for increased activity in your business — increased activity that is bound to come.

In every industry—in *your* industry—forward looking companies are going over their plant equipment now. They are making repairs and improvements; discarding antiquated machinery; installing modern, more efficient and economical devices.

Will you be prepared as the pendulum swings back?

If you crush or screen any material, the HUM-MER Electric Screen will help you keep in the front rank of your industry. You will have an advantage over your competitors who are hanging on to old and obsolete equipment, and you will prevent the progressive from getting an advantage over you.

Many users of HUM-MER Electric Screens report doubled, trebled and even greater increased tonnages due to the HUM-MER.

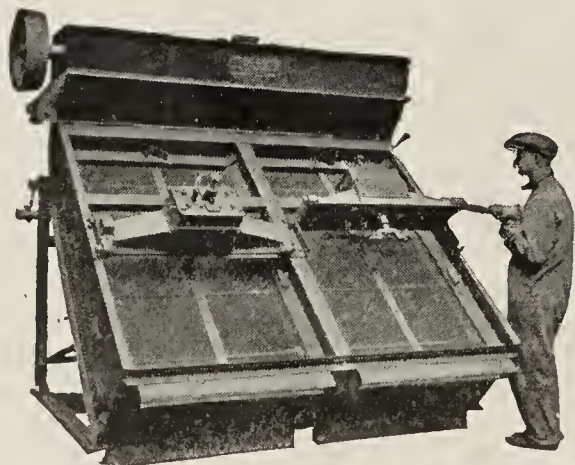
**ACT NOW!**

Tell us your requirements and we will submit a proposition.

**THE W. S. TYLER COMPANY**

**Cleveland, Ohio**

Manufacturers of Woven Wire Screen and Screening Equipment.

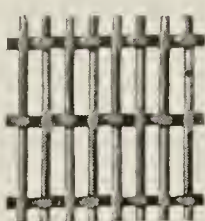


Catalogue  
No. 42-W  
sent upon  
request.

## HUM-MER

*Electric Screen*

*"Makes wire cloth screen  
faster and wear longer."*



SEEN IN NEW JERSEY.

(Continued from page 176)

voted many years in study, both in this country and abroad, where he spent several years traveling from one European country to another. He is at the present time holding an important office in the United States Potters' Association. John A. Campbell, also of Trenton, was his partner at the time he was a member of the International Pottery Co.

A new porcelain products company has been incorporated by Thomas Midlowski, Carl Markau, and John Janus; capital stock \$100,000.00, to be known as the United States Porcelain Co., having headquarters at 54 Seward Street, Trenton, N. J.

Demand for common and face brick in Paterson, N. J., is becoming very active, according to the report of Nathan H. Sloan, one of the largest brick brokers in the state. He has had many inquiries for face brick in the various red tones, for public schools and other public work and he, with others, is now at work upon a building project fostered by the Associated Industries, to build one hundred homes for the employees of the several industries. The first unit is to consist of one hundred houses and he is now at work trying to convince the committee that brick should be used for that purpose, and if the entire home is not of this material he suggests that it should be used as a trim.

A particular feature to be noticed in the construction awards of late, are the few contracts that amount to \$100,000 to be seen in the state of New Jersey. A great many contracts above this figure are reported on the tables awaiting the straightening of the labor situation.

Most of the contracts talked of in this section are for public buildings and schools to be built of burnt clay products with terra cotta trim. The aggregate amount of these contracts in Passaic County will run close to \$5,000,000. This is a good boost for the burnt clay products. Added to this is a large theatre and hotel in Paterson to cost close to \$2,000,000. Two new bank buildings and one addition are being built in Hackensack of buff colored face brick, one in Clifton and another in Allwood, all within a radius of ten miles.

The Whitestone Silica Fireclay Co., formerly of 1 Montgomery Street, Jersey City, N. J., has filed a certificate of dissolution and will discontinue operations in New Jersey. George W. Flaacke was named as agent in the papers and William U. Goodbody as secretary. A. L. B.

### POTTERS ACCEPT WAGE CUT.

At a conference between the United States Potters' Association and the National Brotherhood of Operators, held at Atlantic City, early in August, one of the greatest single reductions since the close of the war was voluntarily accepted by the men, which amounted to nineteen per cent., ten per cent. of which is to take place immediately and nine per cent. in January.

It is claimed by the Association that the pottery industry in the United States is operating on a basis of less than 50 per cent. and the prospects for an increase in production are not as bright as they might be. The depression has only been felt in this line for the last few months, being one of the latest trades to feel the decline in business. It is not expected to pick up until all industries revive, which it is hoped will be in a very short time.

It was stated by the secretary of the Association that there is considerable pottery imported from England, Japan, Austria and Germany, but the small consumer demand at present, does not influence the trade to any great extent. The potters are of the opinion that when the Fordney measure of tariff is put into effect it will protect them considerably.

Not only has the Kansas Industrial Court been doing good work but the law creating it has been upheld by the Supreme Court, which would seem to make it a permanency.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

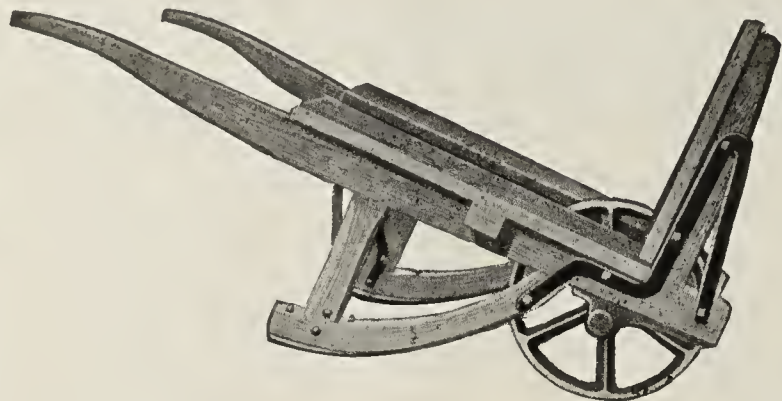
On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

# THE MANUFACTURERS EQUIPMENT CO.

## DAYTON, OHIO, U. S. A.



## The Invincible Barrow



The favorite barrow has lost none of its popularity. We furnish them for either brick or sewer pipe and with plain wood, babbitted or spring bearings. They are honestly constructed thruout. On account of increased manufacturing facilities we are able to make immediate delivery.

Write For Prices

**The Toronto Foundry and Machine Co.**  
Toronto, Ohio

## Manganese

We have prepared for the Spring and Summer building boom. Have You?

We have all standard mesh manganese, especially prepared for Brickmaking, in stock ready for prompt shipment, with our mines and mill running full time.

If you have not already arranged for your 1921 supply of MANGANESE, we would advise that you send us your order for your equipments at once.

*We guarantee an even  
grade product at all times.*

**Hy-Grade Manganese  
Company**

Main Office  
Woodstock, Va.

Sales Office  
Charleston, W. Va.

### ZIRCONIUM SILICATE

**Z**IRCONIUM silicate is a refractory material, being mined at present mainly in Florida, where it is found as mineral zircon. It is converted into brick, refractory shapes, crucibles for melting brass and steel, muffles, etc. The following comment on it is taken from the "Brass World":

"It is claimed that it has practically no expansion or contraction; it withstands the action of acid and basic slags to a great degree; it has a melting point of over 4,600 degrees Fahrenheit, which exceeds that of the most refractory clays, silica, and several of the silicon carbides. An interesting feature is that its incorporation into any clay or silica mixture imparts thereto the quality of being more resistant to sudden changes of temperature, thus helping to cut down the spalling losses.

"The raw sand mixed with common fireclay makes such cements more resistant to fluxing and abrasive action. The zircon is harder and twice as dense as silica.

"Ordinary graphite crucibles lined with zirconium silicate are said to last longer and discharge their heats cleaner."

### INVESTIGATION OF SOUTHERN CLAYS.

The United States Bureau of Mines at Tuscaloosa, Ala., makes an announcement of more than passing interest and importance, to both the mineral and industrial development in and around that section. There are several problems to be studied and investigated. Among them will be non-metallic mineral fillers, such as clay, fuller's earth, graphite and whiting. Other problems to be taken up include low grade iron ores, by-product coking and coal and graphite.

Coming under the subject of mineral fillers are, asbestos, barite white clay, diatomaceous earth, fuller's earth, graphite, whiting or powdered limestone and marble, ground mica, ocher, slate flour or ground slate refuse, silica and talc. Some of the above appear throughout this section in large quantities, particularly in Georgia. Most of the experiments on the above will be confined to their use as fillers. Graphite is used in many lubricating compounds. Clay is used as a filler for certain types of rubber, for paper, oil cloth and for automobile tops. Possibly the clay could be used for other purposes, but this remains to be seen.

There is a large pigment and chemical company now operating in Georgia that is handling the clay for some of the aforementioned purposes.

This new government station intends to study graphite under a special head, and will examine its use in the manufacture of steel crucibles and allied purposes.

### ONE FAMILY BRICK HOMES IN FAVOR.

The old fashioned one family brick American home is fast coming back to favor with the home builders of Pennsylvania, New York and New England States. While Philadelphia has always built but one or two family houses in row after row, there have been few other cities, except those near enough to feel the influence dominating this large center, that have used this type. Other large cities have used more frame and concrete for dwellings.

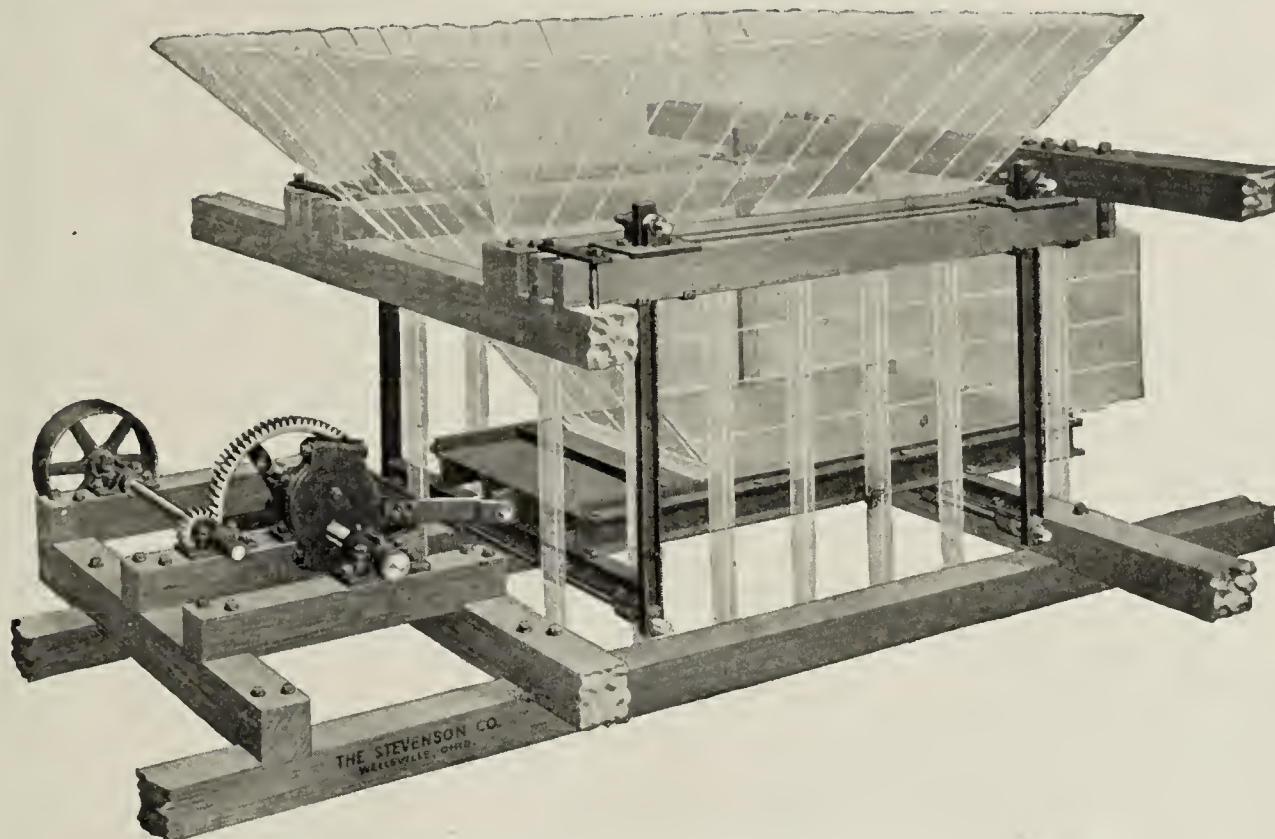
In a report on 1920 building operations, it is shown that seventy per cent. of families which had been provided with new homes, selected the one family house, eleven per cent. two family dwellings and nineteen per cent. multi-family houses. The same report showed that most of the multi-family houses were erected principally in the smaller cities.

We no sooner get an eight-hour day all around than some of the union agitators want to trim a few hours off the week. By and by we will have it down to a half day, and then a lot of argument about whether we shall work in the forenoon or afternoon.



# STEVENSON'S RECIPROCATING PLATE FEEDER

For  
D  
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For  
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FURNISHED IN SIZES TO SUIT

A MECHANICAL FEEDING DEVICE  
OF

HIGH EFFICIENCY  
AND

LOW FIRST COST

LOW MAINTENANCE COST

LOW POWER CONSUMPTION

## THE STEVENSON COMPANY

GENERAL OFFICES  
AND  
WORKS

Wellsville - - Ohio

Western Sales & Engr. Office  
802 MONADNOCK  
BUILDING

Chicago - - - Illinois

Bulletin on request.

Mention THE CLAY-WORKER.



## Make your kilns turn out uniformly good work.

A reputation for consistently high grade product can be assured only by standardizing your operations. Thwing Pyrometers give you the information you must have to standardize your kiln burning operations—instant and accurate temperature determinations, easy to make, and for permanent record if desired. A Thwing Pyrometer installation is sure to save its cost many times over in reduced waste of fuel, increased saving of time, and assurance of more uniform and better quality of product. Write for full information. 110

# THWING PYROMETERS

Thwing Instrument Co.

Lancaster Ave.  
and Cuthbert St.  
Philadelphia, Pa.



With Chase Flexible and Reversible Bearing  
and Folding Deck.

Single, Double and Triple Deck Dryer Cars,  
Transfer and Dump Cars, Turntables,  
Switches and Trackage.

The Chase Foundry & Mfg. Co., Columbus, O.

Written for THE CLAY-WORKER.

AMONG PHILADELPHIA BRICK MEN.



NEW CONSTRUCTION WORK to cost \$20,000-000 will have been contracted for before the end of August, according to Joseph M. Steele, president of the Master Builders' Exchange and Employers' Association, and E. P. Flannery, chairman of the committee of twenty-three of Philadelphia Chamber of Commerce.

The statement has given the building situation here an entirely new color and indicates that the long-delayed building boom is about to be successfully launched.

An air of optimism pervades the entire industry. Architects, engineers and contractors are prepared to take advantage of the 120 clear days of weather ahead and do much outside work, so that interior finishing can progress smoothly next winter.

Several important contracts have been closed during the past few days and formal announcement of the same awaits financial developments. The question of financing continues to be a troublesome feature of construction, despite persistent efforts to bring the point home to financial interests that it is their civic duty to make sacrifices, if necessary, to make the boom a big one. It is felt that the City of Homes should lead the country in any home-building boom.

Contractors say the time for building has arrived. William Steele & Sons Company, one of the largest organizations of architects, engineers and contractors in the State, has just made an announcement, excerpts of which follow:

"Six months ago we urged our clients to have their plans prepared, but to defer operations until conditions warranted. A careful survey of the construction industry convinces us that the time for action has arrived. We base our decision upon the following facts: stabilization of the building industry; 30 to 65 per cent. reduction in building material costs; 23 per cent. reduction in wages to building trade mechanics; improved transportation conditions, and the maintenance of production schedules. We therefore assert that Philadelphia will be justified in erecting 15,000 houses and 5,000,000 square feet of industrial floor space, which constitute an acute domestic and business necessity."

This statement was made after the final barrier to low building prices—the strike of mechanics—was removed. Prices of materials came down during the period of inactivity which grew serious last spring and resulted in final reductions in May and June.

The semi-annual report of building operations in Philadelphia for the first six months of 1921 again emphasizes the great and increasing shortage of houses particularly and building generally. The six months ended June 30 shows a decrease over 1920, in total new buildings, of 338, and a decrease in value of \$15,368,200. Permits were issued in the first six months of 1920 for 2,021 new buildings at an estimated cost of \$25,839,490, and in the first half of this year permits were issued for only 1,683 new buildings at estimated cost of \$10,471,290.

The greatest decrease in operations was in two-story dwellings, a drop of 291 and a difference in amount of \$3,019,875. In three-story buildings a drop of 178 and a decrease in cost of \$2,243,900. Manufactories showed a large decrease over the same period in 1920, only 25 new buildings, estimated cost \$832,904, in 1921, compared to 48, costing \$4,027,600 in 1920. Warehouses dropped from 15, costing \$4,182,000, to 13, costing \$312,550.

A notable increase was made in stores, which in the period classified jumped from 18, costing \$210,650, in 1920, to 49,

(Continued on page 188)



# \$50 IN CASH

To any Owner, Official or Employee of a Brick Plant, who suggests a name for the —“ARNOLD—CREAGER” S. S. S. SPECIAL AUTOMATIC BRICK MACHINE which we decide is suitable, we will give a PRIZE of \$50.00 CASH.

In case of a “tie” the full amount of the prize will be awarded both parties.

The “ARNOLD CREAGER” S. S. S. SPECIAL AUTOMATIC BRICK MACHINE manufactures Building Brick and Fire Brick, by the soft mud sand molded process.

It is a development of 50 years experience in the manufacture of soft mud brick machinery.

It automatically delivers the empty molds to the Mold Sander.

It automatically sands the brick molds.

It automatically delivers the brick molds from the Mold Sander to filling position under press box.

It automatically fills the brick molds with stiff clay.

It automatically strikes off the surplus clay from the brick molds, as they are ejected from under the press box.

It automatically and uniformly bumps the brick molds.

It automatically inverts the brick molds, placing the brick on steel or wooden pallets.

It requires only one machine operator to place the pallets on the dumping mechanism.

It has a capacity of 6, 7 or 8 brick to the mold, at a speed up to 22 molds per minute.

It produces brick of better quality than is possible with labor operated machines, owing to mechanical bumper and dumper permitting use of stiffer clay in press box.



We would prefer a two syllable word that would convey a significant meaning; for example, an electric light globe was given the name of “Mazda.” It is a two syllable word, meaning, “God of Light.”

Contest closes 12 o'clock standard time, August 31, 1921.

## LANCASTER IRON WORKS, Inc.

LANCASTER, PA.

BRICK MACHINERY DEPARTMENT  
Jas. P. Martin, Mgr.

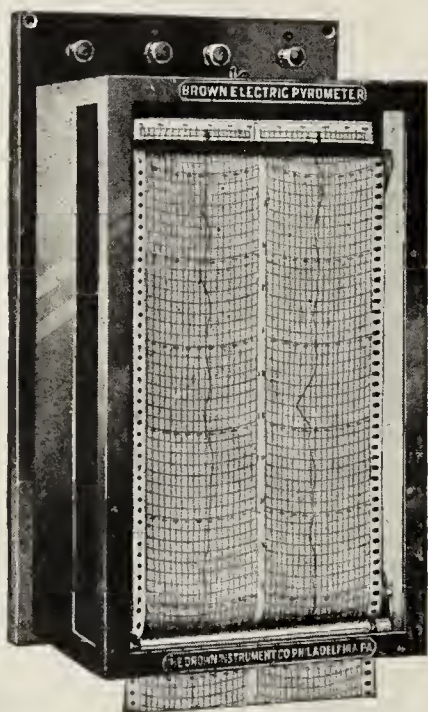
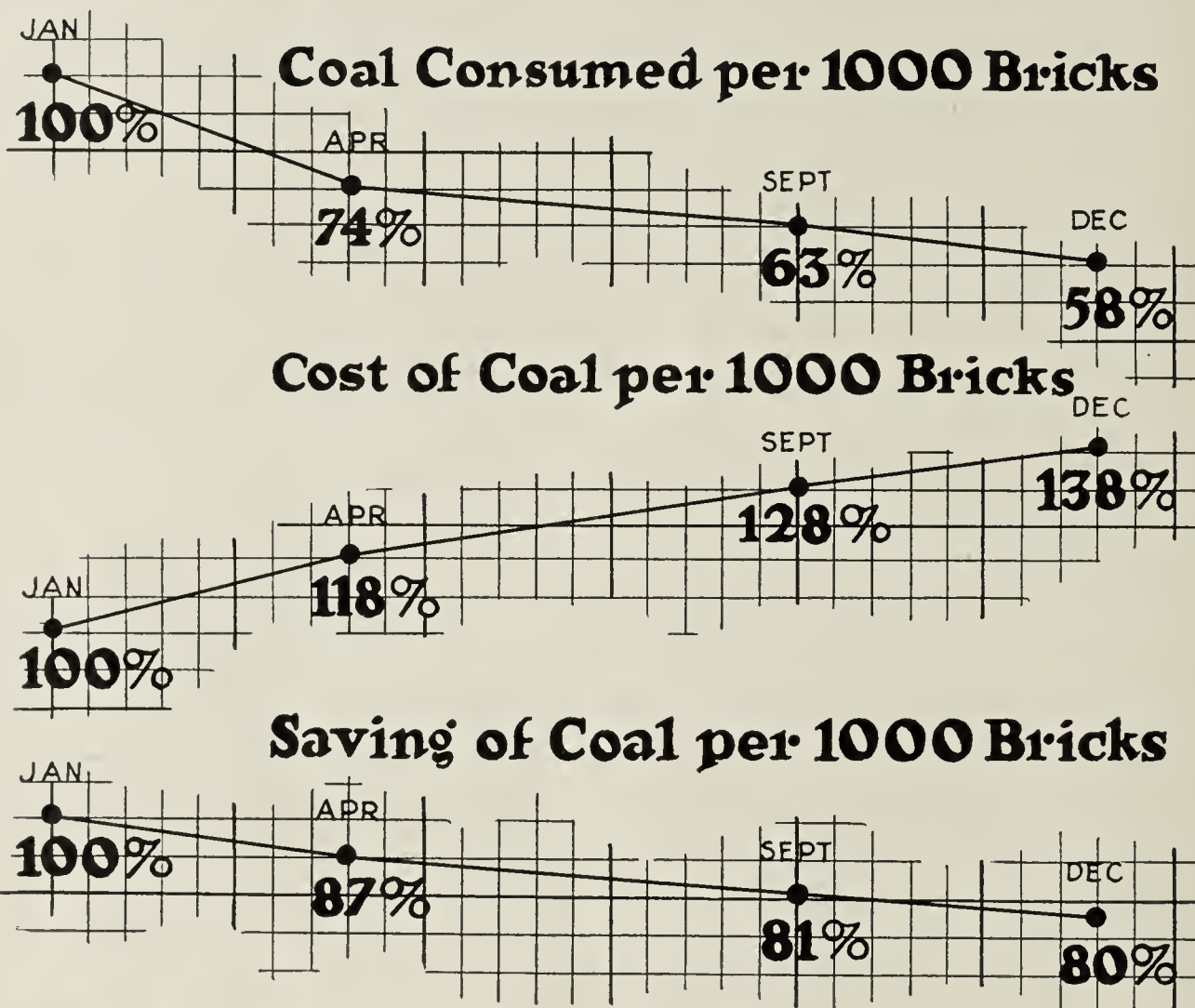
Successors to  
The Arnold-Creager Co.,  
New London, Ohio.  
Originated 1877.

*Specialists in complete equipments for Building Brick and Fire Brick Plants manufacturing by the soft mud process*

Manufacturers of  
“Martin” Brick Machinery  
Lancaster, Pa.  
Originated 1858.



# 20% of Fuel Costs Saved in spite of 38% Increase in Price



Brown Duplex Recording Pyrometer, which records day and night kiln temperatures.

## Do Your Coal Costs of Last Year Show This Saving?

20% of fuel costs saved in spite of 38% increase in price is the record of one of the largest brick plants in the Middle West for 1920.

Previous to 1920, this Company had burned brick in the old hit or miss method of guessing kiln temperatures. In January a Brown Pyrometer equipment was installed and the record shows a 20% saving was made after the Pyrometers had been installed one year.

If a Brown Pyrometer Equipment could accomplish this enormous saving on coal bills for this company—it possibly can do the same for you.

Write us a few lines, outlining your equipment, and our Pyrometer Engineers will explain in detail, savings that are accomplished in Brick burning by the use of Pyrometers, and without any obligation, will quote you on a Brown Pyrometer Equipment for your Plant. Address the Brown Instrument Company, 4505 Wayne Avenue, or District Offices, New York, Pittsburgh, Cleveland, Chicago, Detroit, St. Louis, Denver, San Francisco, Los Angeles and Montreal.

# Brown Pyrometers



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### Boss Ten-Hour Dryer



Will dry your daily output in TEN HOURS with either WASTE HEAT or EXHAUST STEAM.  
Less cost to build—Less cost to operate.

### Boss System of Burning

Brick or hollow ware burned in ONE-HALF LESS TIME and ONE-HALF LESS FUEL. Increases your kiln capacity. Dryers and kilns designed and built. Let us solve your drying and burning problems.



**J. C. Boss Engineering Co.**  
Elkhart, Indiana



YOU HAVE KNOWN FOR YEARS THAT

## RICKETSON'S MORTAR COLORS

are pure and brilliant in tone, economical in application, absolutely reliable, and a permanent guarantee against fading and washing.

### Why Not Insist on Having Them?

They are the acknowledged best for all uses---Mortar, Brick, Cement, Concrete and Stone.

**Red, Brown, Buff, Purple and Black.**

**RICKETSON MINERAL PAINT WORKS**  
MILWAUKEE, WIS.

## CARS CASTINGS DIES

In our Foundries and Machine Shops we are prepared to furnish Dryer Cars, Clayworkers' castings and Dies of all kinds for sewer pipe press and machines, Etc. Write for Prices

**Wm. E. Dee Co. 30 N. LaSalle St.**  
**Chicago, Ill.**

## Over 60,000 In Use

Oil Burners For All Types of Kilns



Perfected to  
The Minute

### HEAT TELLS!

Write us today

"Be Sure It's Schurs"

## SCHURS OIL BURNER CO.

Established 1905  
Los Angeles, Cal., U. S. A.



# Classified Advertisements

## FOR SALE, WANTED, ETC.

Advertising rates in this column 35 cents a line, or 6 cents a word each insertion; about six words make a line. Cash should accompany the advertisement to insure insertion. No ad inserted for less than \$1.00.

## WANTED, ETC.

### WANTED.

Position as manager or superintendent of brick plant. Thoroughly experienced in leading clay lines. Can accept position promptly. Address

J. A. L.,

81 c Care Clay-Worker.

### WANTED.

Position as superintendent or manager of brick plant. Am a practical man in all leading lines from clay pit to office. Am A No. 1 burner. Address

F. D. K.,

81 d Care Clay-Worker.

### WANTED.

One waste heat blower fan, must be in good condition. Also, steam coil pipes to be used in connection with same.

A. C. OCHS BRICK & TILE CO.,  
8 tf d Springfield, Minn.

### WANTED.

Experienced foreman for paving brick plant, also for sewer pipe plant. State where you have worked and in what capacity and how long. Address

FIRE CLAY,

81 d Care Clay-Worker.

### POSITION WANTED.

Trained executive and salesman, now employed, wants change. 45 years old; 14 years sales, engineering and executive experience, largely in fire brick. Would be interested in development of new project anywhere, but can make no investment. Excellent references. Address

PENNSYLVANIA,

82 cm Care Clay-Worker.

### WANTED—POSITION.

As manager or superintendent of hollow tile plant. Can furnish best of reference. Have practical experience in hollow ware, including stio and conduits. Employed present position eight years. Will give sufficient reason for seeking change. Address

H. E. H.,

82 cm Care Clay-Worker.

### WANTED.

Who has a Bensing Automatic End Cutting Table Roller Delivery for sale, 8 or 8¼-in. cut? Address Box N, Crescent, N. Y. 71 cm

### WANTED TO EXCHANGE.

7,500 acres of valuable undeveloped Michigan farm land for going brick and tile factory. Cash for difference.

H. H. GARDEN,

83 cm Salem, Va.

### WANTED IMMEDIATELY.

Practical and experienced man for manufacturing end of face brick, fire brick and hollow tile plant. Must be in position to purchase small interest in business to insure associates he will remain permanently. Must be experienced burner. Address ALABAMA, 73d.

Care Clay-Worker.

### DO YOU NEED METAL PALLETS?

We are prepared to furnish new pallets of any desired thickness or dimensions, in FLAT BLACK or GALVANIZED stock, also pallets for car use with rolled edges and ends. We are making a special low price on stock of high-grade new material while it lasts. Sample pallets sent free to responsible parties who mean business.

C. H. HORTON CO.,

81 cm Painesville, O.

## FOR SALE

### FOR SALE.

Fifteen acre deposit of Kieselghur, of best quality. Located in Westmoreland County, Virginia, on the Rappahannock River, 30 miles below Fredericksburg. For particulars address,

51 dm H. P., care Clay-Worker

### FOR SALE.

Two new Elwell Parker type "EG" elevating platform electric trucks; 4 American 9 ft. dry pans; 2 new steel leg bucket elevators for same; 1 Neway-go clay screen; 1 70 KW. 250 volt D. C. generator; 2 new 40 H. P. A. C. motors; 3 pit cars; 1 jaw crusher; 1 new 20 K. W. 125 volt D. C. generator; 100 ft. heavy line shafting with all fittings. If interested in any item, write for further information to

BRADFORD BRICK & TILE CO.,

2 Main St.,

7 tf d. Bradford, Pa.

### FOR SALE.

50,000 one-piece pine pallet boards in very good condition.

BERRICK,

54 cm 101 Manitoba St., Buffalo, N. Y.

### FOR SALE.

One Intermediate Wonder Brick and Tile machine in good repair, with dies and cutting tables, complete. Capacity 40,000. Will price right. F. O. B. cars, Grayville, Ill.

H. M. WHEATCROFT,

5 tf dm Grayville, Ill.

### FOR SALE.

Stiff mud brick plant. The only one within thirty miles. Everything in first-class condition. Doing a good business. Cannot near fill the demand. Located on eleven acres of clay.

BROOKS LONG BRICK CO.,

8 tf d Jackson, Tenn.

### FOR SALE.

Brick manufacturing plant. Situated on the Hocking Valley railroad, at Union Furnace, Ohio. 230 acres of land, containing buildings and equipment and a very large amount of clay suitable for making the famous Columbus buff, gray and speckled face brick, also red dry pressed face or rough texture brick.

For particulars address

MR. F. F. HOFFMAN, Secretary,

85 North High Street,

83 cm Columbus, Ohio.

### BRICK MACHINERY FOR SALE.

Arnold-Creager Automatic and SSS, Potts, Martin, Hercules, Bonnot, Freese brick machines; largest International hollow ware machine, never used; 10, 14, 16 ft. pug mills; Freese, Brewer, Steele automatic cutters; 2AT, 6AT, 7 AT Bensing tile cutters; Climax crusher; Fate clay feeder; 6,000 galvanized pallets, 10x34; 22,000 A-1 white pine pallets, 10x34; 48 in. by 50 ft. rotary dryer; tailing crusher; Penfield 24 in. combined disintegrator and crusher; No. 5 A-C disintegrator; Frost dry pan; 2 and 6 mold Boyd dry presses; new Potts sander; dryer fans; steam engines, 30 to 100 H. P.; 500 H. P. Corliss; 200 H. P. twin Chandler and Taylor; boilers; pipe rack dryers; fully equipped brick yards. Write for prices on brick molds, barrows, trucks, etc.

FRANK McCLELLAN,

14624 Ardenall Ave.,

7 tf d East Cleveland, O.



Classified Advertisements.

FOR SALE.

One hundred thirty-two 4-ft.x5½-in. Herringbone Grate Bars, only slightly used, at \$1.50 each. Forty-four Grate Bar Rest at 50c each. F. O. B. cars at Stamford, Texas.

STAMFORD BRICK WORKS,  
62 c Stamford, Texas.

FOR SALE.

One two-mold Fernholtz dry press, complete with several sets of extra ornamental molds and dies, rolls, elevator, mixer, line shafting, pulleys, etc. Complete equipment for entire 10,000 capacity plant.

Also, one two-mold Raymond repress complete with extra set of molds and dies for pavers. New, never used.

One Raymond 777 auger machine, having made only 800,000 brick. Extra set of augers and knives for same. New.

SUPERIOR PRESS BRICK CO.,  
3190 S. Kingshighway,  
8 t f d St. Louis, Mo.

FOR THE UPDRAFT KILN.

GLECKLER'S SYSTEM of protecting arches will positively produce finest red face brick in your arch heads, in place of those melted and cracked brick, which are sure to be in the unprotected arch.

WE EXPECT 100 PER CENT. RED FACE BRICK in every arch. This system is for GAS and OIL in the scove kiln or coal and wood in the furnace head wall.

Sold on six months' trial; buy it after you find it O.K.

Patent applied for.

FRED GLECKLER,  
8 t f d Oak Harbor, Ohio.

FOR SALE.

Books for Brickmakers. Inexperienced workmen will find them a source of valuable information. "Clay Glazes and Enamels," \$5.00; tells how to glaze and enamel brick and gives valuable recipes. "The Effect of Heat Upon Clays," by Prof. A. V. Bleininger, price \$2.00; a book of valuable information on burning and drying, told in a plain, practical way, and invaluable to the burner or superintendent. "Analyses of Clays," \$2.00; a valuable reference book, giving analyses of well-known clays of this and foreign countries. "The Clayworkers Handbook," \$6.50; a manual for all engaged in the manufacture of articles from clays. "Clays"; their occurrences, properties and uses, with special reference to those of the United States, \$5.00. Any or all of these books mailed postage prepaid on receipt of price. Write for list of other valuable books for clayworkers. Address

T. A. RANDALL & CO.,  
Indianapolis, Ind.

WANTED.

Two Bonnot represses, lot of steel pallets, also lot of double or single deck dryer cars. Address, OHIO,  
711 p care Clay-Worker.



WANTED  
DINKEY  
LOCOMOTIVES

Will purchase several seven to fourteen ton engines in any condition which will justify our rebuilding and repairing same. VULCAN and DAVENPORT preferred.

The Pittsburg Boiler &  
Engine Co.

Pittsburg, Kan.

1 t f d

WANTED.

Position as manager, constructor or salesman of a model dry press or stiff mud brick plant. Twenty years' experience in several different states. Address PRACTICABLE,  
61c Care Clay-Worker.

If...

You Want  
to Sell  
or Buy...

Second-hand Clayworking Machinery, Tile Mills, or anything pertaining thereto.

If...  
You  
Want a Man

for any position or a position in any connection with the Clayworking Trades use the

For Sale  
and Want  
Columns  
of...

The...

Clay-Worker

RATES

For all transient advertisements, such as "For Sale," "Wanted," etc., the rate is 35 cents a line per insertion. Average of seven words to line.

The Best, Quickest, Cheapest Method of Securing Results.



The Parker-Russell  
Mining and Manufacturing Co.  
ST. LOUIS, U. S. A.

Fire Clay and Silica Products of Quality for Service---  
Especially for Kiln Construction.



## AMONG PHILADELPHIA BRICK MEN.

(Continued from page 182.)

costing \$526,050. The number of garages increased from 654, costing \$1,673,215, in 1920 to 727, costing \$1,686,455.

The greatest single improvement in sight is the erection of an office building between Chestnut and Ransstead Streets in Broad Street, on a site for which the Shuberts theatrical interests of New York will pay \$350,000 a year for a long term. Announcement of improvements are expected September 15, but it is almost certain that an office building, probably higher than any in the city, will be erected. Several years ago the Fidelity Trust Company contemplated building a thirty-story office building on this site.

Ballinger & Perrot, architects and engineers, announced recently plans for the reconstruction of the Wesley Building. The present structure, which is six stories high, will be converted into a fourteen-story fire-proof office building, 60 by 114 feet. It will have a tile facing on the street sides and cost about \$350,000. Two other permits this month, which up to the date of issuance were the largest so far this year, include one for a ten-story factory building for the Hurley Motor Company, to cost \$350,000, and another factory to cost \$220,000.

A survey made by the Chamber of Commerce of Wilmington, Delaware, this month, shows a reduction in building costs now of between 35 and 40 per cent., compared with the figures of a year ago. The result has been a steady resumption of construction.

An indication of the difference in building costs is shown in the construction of the Silverbrook community house, which is under way. Last year the contractor bid \$67,000 for the job, but this was refused. This year he bid \$40,000 and was awarded a contract and is able to give the building committee of the church a much better building than he could have done a year ago.

The compromise of the United Potters' Association and the National Brotherhood of Operative Potters at Atlantic City early this month was generally pleasing to the trade here. The outlook had become very black when suddenly the compromise was struck and the entire aspect changed. Potters generally expect only a fair amount of activity this fall, but they are considerably cheered over the settlement of the wage dispute.

THE QUAKER.

## WEEDING OUT WASTE IN BUILDING

**W**ASTE IN the building industry has been the subject of much attention and discussion in both the trade papers and daily newspapers lately, and out of it all we should by and by get some good ideas and some active co-operation to put the building industry on a better basis all around.

One of the elaborate and thoughtful presentations of this waste problem in industry has been offered by D. Knickerbacker Boyd of the Engineers' Club of Philadelphia and his paper on this subject printed in the Journal of the Engineering Club of Philadelphia merits careful reading and thoughtful study. He makes the following three classifications of certain wastes which stand out clearly in the building trades:

"(1) Loss of working time throughout the year. (2) Poor planning of construction work and the individual jobs by the builder. (3) Lack of knowledge of the day's work."

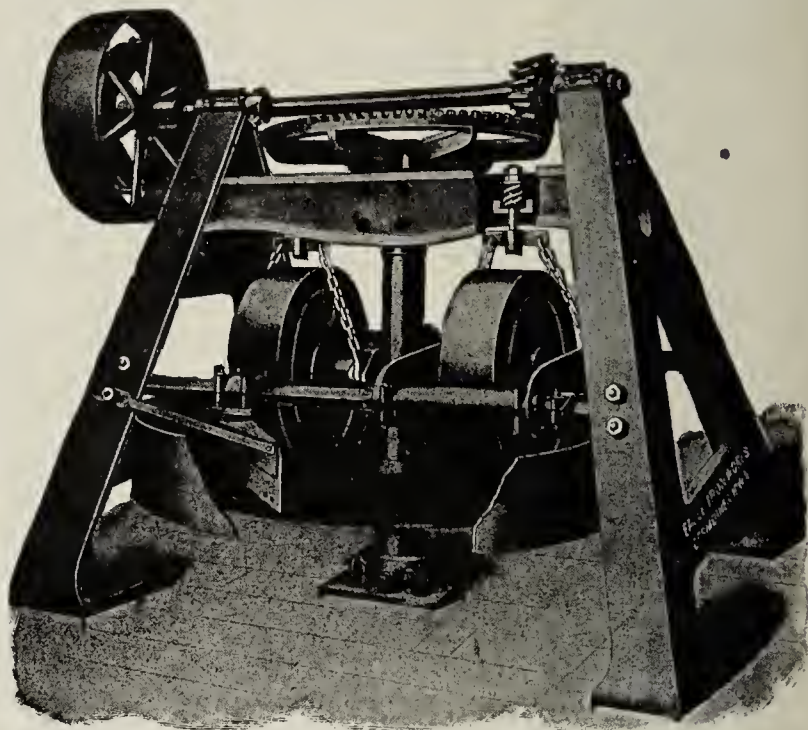
Among the outstanding facts being featured one is that the loss from unemployment in the building industries amounts to half a billion dollars a year, which is good and sufficient argument in favor of striving to keep employment for the workers throughout the year.

Incidentally it is found that labor unions add wastefully to the cost of construction by some of their regulations, especially those limiting certain kinds of work to certain kinds of men.

Out of the present shake-up and the surveys being made by engineers we should get some information that will be useful to us in the future. Also the public should be impressed among other things with the fact that the building of cheap, flimsy fire traps is wasteful construction and that real economy consists in building with material that is permanent and also safe against destruction by fire.

## Independent and Suspended Mullers

the distinguishing  
feature of our **DRY PANS**



Other valuable features which our  
catalogue fully describes.

**EAGLE IRON WORKS**  
Des Moines, Iowa

DO YOU WANT

**Any Thing Used On  
A Brickyard or a  
Clay Plant.**

**We Handle it.  
Ask Us.**

**CHICAGO BRICK MACHINERY CO.**

2825 W. Harrison St.

Chicago Ill.



Written for THE CLAY-WORKER.

BRICK AND CLAY NEWS FROM MILWAUKEE AND WISCONSIN.

WITH MILWAUKEE showing a good increase in building activity and the rest of the State of Wisconsin doing considerable construction, the demand for clay products in the building industry in this state is of such volume that manufacturers and dealers are quite satisfied with the situation. The present year will probably exceed all previous years in the number of permits and the amount of money expended for building purposes, according to the building inspection department of Milwaukee.

The total number of permits issued in 1921 up to August 1, was 17,726, with \$13,683,809 as the total amount of the permits. This is a decided increase over the corresponding period last year, when the permits numbered 13,915, amounting to \$12,673,118. During the month of July, 1921, permits aggregating \$2,616,123 were issued, while only 1,991 permits for the sum of \$1,625,100 were issued for the same month last year. It is estimated that the total amount of building permits this year will be about \$24,000,000, which will exceed 1919, the previous record year, when the sum was \$23,366,677. Last year the total amount expended for building purposes was \$19,903,000. Thus far in August, figures continue to run in excess of the same month last year.

One of the principal items in construction work throughout Wisconsin has been school, public building and church construction. In 1920 and 1921 the total expended for new school buildings will reach \$17,000,000. Of this total, over \$11,000,000 was appropriated for new schools in cities of the state and over \$5,000,000 for schools in villages and townships. The last State Legislature appropriated \$250,000 for one new building for the State normal school at Whitewater, Wis., and \$16,000 for a model rural school at the Stevens Point normal school.

According to Milwaukee dealers of brick and other building materials, the volume of business this year is entirely satisfactory. Many cities of the State decided to go ahead with municipal work which was delayed during the war. One of the reasons was to provide work for many unemployed. Although material prices were high, the readjustment has brought costs down to what is now considered generally a fair basis under present conditions. It is estimated here that the cost of erecting the average home is about 25 per cent. less than a year ago. A survey of prices shows that average prices of common brick are now \$14.50 per thousand, compared to \$20 at the peak of prices and \$9.25 in 1917, just before the United States entered the war.

Selection of sites for the construction of the first units of homes by the Garden Homes Co., Milwaukee, indicates early beginning of actual construction. The company has acquired twenty-nine acres on the northwest side. Engineers will start at once to plat the property and ultimately 200 homes will be built. It is reported that 500 applications for homes have been received. City and county officials and civic organizations have consolidated their efforts in the Garden Homes Co. to relieve the home shortage.

Articles of incorporation have been filed at Sheboygan, Wis., by the Falls Brick & Tile Co., organized for the purpose of manufacturing and selling brick, tile and other clay products. The company has its plant and offices at Sheboygan Falls. Capital stock is placed at \$50,000, consisting of 500 shares at \$100 par value each. Adolph O. Waechter, Charles A. Waechter and Raymond Waechter are the incorporators.

A. BADGER.

If the new roads that are built this year are properly drained the demand for drain tile here should help make up for the slow spring demand from farmers.

## THE MEANING OF A NAME

When you think of the finest qualities of silverware or jewelry the name "Tiffany" immediately flashes across your mind.

And an increasing number of people when they think of the best in pyrometer construction immediately think of "Engelhard."

Reactions such as these are the result of years of honest effort to build and market good equipment.

## ENGELHARD PYROMETERS

have a reputation for accuracy and sensitivity that makes many people think of them as a laboratory standard or "court of last resort." And they are good for this purpose. But coupled to their laboratory sensitivity and accuracy they have the down-right strength that enables them to stand up for years under the severest industrial uses.

No matter whether you are equipping your laboratory or your plant, it will pay you to remember that

**ENGELHARD PYROMETERS  
ARE GOOD PYROMETERS  
TO STANDARDIZE ON.**

**CHARLES ENGELHARD, Inc.**  
30 Church Street New York City



Written for The Clay-Worker.

## PRICE OF COAL AND PRICE OF BRICK.



ANY ARE ASKING why, in the general decline in prices of nearly all commodities, the price of brick is as high or higher than ever before. Lumber dealers say that prices of lumber October 1 averaged 26 per cent lower than March 1, so that a frame house can now be built without fear of excess cost of lumber, since there is no probability of further decline, on account of the depletion of sources of supply and the increase to freight rates. Price of fuel cuts no figure in the cost of lumber. But what about brick? What keeps the price up?

One important factor in the cost of brick is the price of coal. Nearly every brick manufacturer today knows how much coal it takes for the making, drying and burning of a thousand of his brick, on an average for the year, so when there is a rise in the price of coal he knows how much he must add to the price of his brick. He knows also that every rise in price of his product lessens to some extent the demand for it. Therefore, brick and tile manufacturers are vitally interested in the price of coal.

The brick and tile manufacturers, through their various organizations, have been spending a lot of time and money to prevent a raise in freight rates, and in this have not had the sympathy of the public, since the public generally has been convinced for some time that the railroads must have a larger revenue to meet the higher cost of operation and to make needed renewals and increase of equipment, and what the public wants most is better service. An equal effort by brick manufacturers to reduce the price of coal would have the sympathy and co-operation of everyone and would undoubt-

edly meet with better success, since an investigation would show that the extremely high price of coal is maintained by a strong organization of coal operators who are reaping a harvest in profits. Former Secretary McAdoo gave out some statements of these large profits and it was thought that he was guessing or exaggerating, but it was afterwards shown that he had the facts.

Coal mining today is one of the most profitable businesses. In fact, it is a profiteering business, controlling one of our most vital necessities of industry and governing the supply and price of nearly every commodity. A natural product, stored in the earth before the creation of man and to the origin and development of which he has contributed nothing and to which he can add no value, except by mining and transportation, yet this gift of nature to all mankind is controlled by a comparatively few people, bonded together for their own profit, regulating the price of a necessity for which there is no adequate substitute! So far our government, on whom we rely for protection, seems to have been unable to give us relief. In war time they had a fuel commission that fixed the price of coal at the mines, but at such a figure that coal operators had never made so much money before, even though a part of the profits had to be returned to the government as war taxes. But war time prices have been more than doubled since the government gave up their control, with the excuse of increase of wages and shortage of cars, both valid excuses so far as they go, but entirely inadequate for the high prices now prevailing.

Fair Price Commissions are everywhere making investigations and rulings that have had some effect in reducing retail prices of many articles, and a few prosecutions have been made, but such retailers are not organized for resistance. When the Commission attacks coal, however, it is up against



## WHICH METHOD SHALL YOU USE? ARE YOU OPEN TO CONVICTION?

Do you believe Progress has been made in handling various materials?  
How do you handle brick?

What do you think of this? One two-ton truck delivering 10,000 brick over country roads, a round trip distance of 9½ miles per day?

The "FONTAINE DEMOUNTABLE TRUCK BODIES" handle brick or similar material without danger of breaking or chipping and yet cut cost of labor in half and keep the truck always on the move. Why not enquire?

**The American Truck Body Co., Inc., Martinsville, Va.**

Mention THE CLAY-WORKER.



a strong organization of producers and dealers and not much headway has been made. But if the investigation is carried far enough and is backed by organizations of coal consumers, the fact will be brought out, as many of us know.

1st. It can be ascertained just what it costs to deliver a ton of coal on car at the mines, including all overhead charges and depletion, even under the abnormal and unreasonable prices now being paid to miners and laborers. Laborers at coal mines are now getting about \$7.50 for an 8-hour day and a good coal miner can make \$20 in 8 hours in many districts.

2nd. It will be found that the cost of production, even under present conditions, bears no fair ratio to the selling price, controlled by an organization.

3rd. The coal operator, protected by his association against competition, doesn't care what wages are paid to miners nor what the shortage of cars is, so long as the demand for coal is greater than the supply available and prices are regulated by his organization. In fact, he seems to welcome an excuse for his high price. He doesn't worry now about the shortage of cars, so long as he gets his share of them. He knows that his organization is regulating the selling price of coal accordingly.

Under present conditions many brick plants must shut down soon or pile up high-priced brick for the next building season. Why not have their own commercial organizations work with the proper government department to secure competent investigation of coal prices and a substantial reduction of same. It can be done with proper organized effort and the brick industry and every other industry and every individual man be benefited thereby. The brickmaking industry should take the lead in this, since the price of coal is such a large factor in the cost of brick, and since cheaper building material is so much to be desired in the present shortage of dwellings, business and public buildings.

There is no question before clay product manufacturers today so important in its bearings upon the welfare of the

industry as the fuel question, no field of investigation more promising in its results than that of coal prices and fuel saving. We suggest that the various commercial associations of clay product manufacturers take united action, through committees and attorneys, first, in securing facts, and then in presenting these facts with arguments where they will be most effective.

A. CERAMIST.

#### AN INSURANCE SHAKE-UP.

THE fire insurance people have been doing some splendid work in promoting better and safer building and in pointing out ways and means to safeguard against fire and to reduce the hazard here so as to get insurance at a lower cost.

While they have been doing all this, however, there is a question if they have not been profiting themselves fully as much as they have profited the policyholders. There has come out of the investigation and general shake-up in New York started by Mr. Untermeyer some pretty sharp criticism of the big insurance companies for monopolistic practices and profiteering, part of which it seems they have pleaded guilty to and have promised some reforms.

As a matter of safety insurance companies are required to set aside certain reserves, but it seems that they have been profiting a little more than they should from these reserves and that a healthy reform in insurance circles will lighten the insurance cost to policyholders of the country a good million of dollars.

The insurance business is a big business with big money tied up in it. Authorities say that there is more money involved in the insurance business of the country than in the banking business of the country, so it is plainly a big business. It is a big business that has done some good work, too, not only in carrying fire risks but in promoting fire prevention. Here's hoping they continue that good work and meantime carry out such reforms in their own methods as will result in trimming down insurance items so as to reduce the overhead cost of business and lighten the burden of the home owner.

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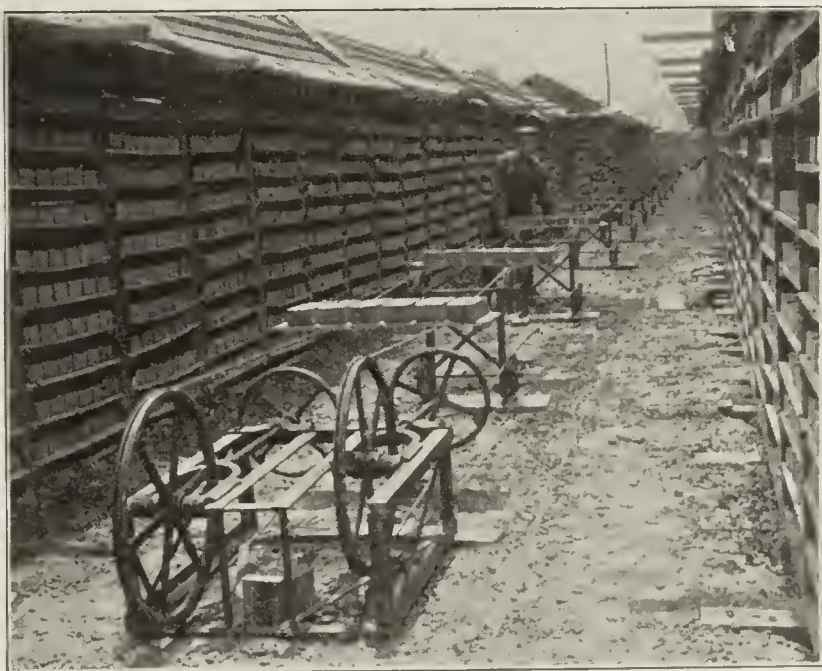
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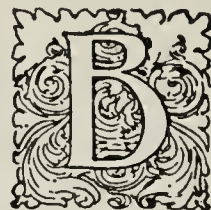
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*32nd Street and Broadway*

Written for THE CLAY-WORKER.

## NOTES FROM DIXIE LAND.



USINESS IN the brick, clay, tile and queensware lines in the Mississippi Valley holds up with fair volume. Prices are somewhat lower on most materials than in the spring and big building activities have not started quite so briskly for the summer season as was anticipated, but the concensus of opinion is that August, September and October activities will be very considerable, with ample work to keep labor busy that was idle early in the year and of sufficient volume to make both the manufacturer, wholesaler and retailer feel more comfortable. Crop outlook is bright in the Mississippi Valley, very hot weather all through the summer being accompanied by sufficient moisture in the form of real rain storms in late July and early August. Both residential, municipal and business construction is opening up now and some of it is of an elaborate and fine character.

F. R. Thomas of the F. R. Thomas Clay Products Co., car lot dealers in the Central Bank Building, reported July trade as having shown an improvement on other months, though there was a decided lull early in the summer. Both local and out-of-town trade in the Memphis section is good now. Many industries inactive in the spring are resuming and some of them making large improvements in their plants. These people feature face brick, hollow tile, composition roofing, sewer pipe, wall coping and similar products.

J. J. Bishop of the Memphis Brick Supply Co., Goodwyn Institute dealers in brick and terra cotta products, advises that the outlook in Memphis for autumn activities is excellent. Labor difficulties in the building crafts have been adjusted, big work that had been holding back is being started, a large number of fine new public schools, all of brick construction, several prominent churches and numerous handsome residences and bungalows, many of them of brick, tile and terra cotta materials, have started and other large work is in prospect, including a twenty-two story office building, a fourteen story hotel, several factories and numerous warehouses.

B. Mifflin Hood Brick Co., Madison Avenue Building, Memphis, reports good activities in late July and early August in brick products. The Catholic High School, brick construction, J. J. Perryman, contractor, is a handsome job in progress. Buff brick, tile and terra cotta are being used. The floor, walls and partitions are of tile. The B. Mifflin Hood Brick Co. is furnishing a large number of brick for the W. G. Hamilton residence, a modern home being built in the Country Club addition east of Memphis, for a New York cotton man. One hundred twenty-five thousand common brick, 11,000 pieces of National Fireproofing tile, tile roof of California Mission tile, are a few of the features.

A. A. Munsell, 811 McCall Building, Memphis, has the contract for building the First Christian Church at Linden Ave. and Mulberry St. It will be of brick construction, with considerable tile and terra cotta work.

W. W. Fischer of the Fischer Lime and Cement Co. reports summer trade somewhat quiet on materials, but outlook for a brisk autumn good. In their new warehouse now occupied but not fully completed on the Walnut St. side, they carry a very extensive line of fire brick, sewer pipe, wall coping and other materials.

The Fischer-Herbert Brick Co., in South Memphis, is operating full time and have greatly enlarged their equipment for the manufacture of common brick.

The Moss-Devoe Brick Co., 82 South Front St., are operating their brick plant in Memphis and supplying numerous contracts in this section.

DIXIE.



SEPTEMBER, 1921

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# THE CLAY-WORKER



BRICK, NEW AND OLD. The Best Building Material. Front Entrance of the Cadle Tabernacle, Indianapolis. (See page 229.)

Published Monthly by  
**T.A.RANDALL & CO.**  
INDIANAPOLIS, IND.  
OFFICIAL ORGAN OF THE N.B.M.A.

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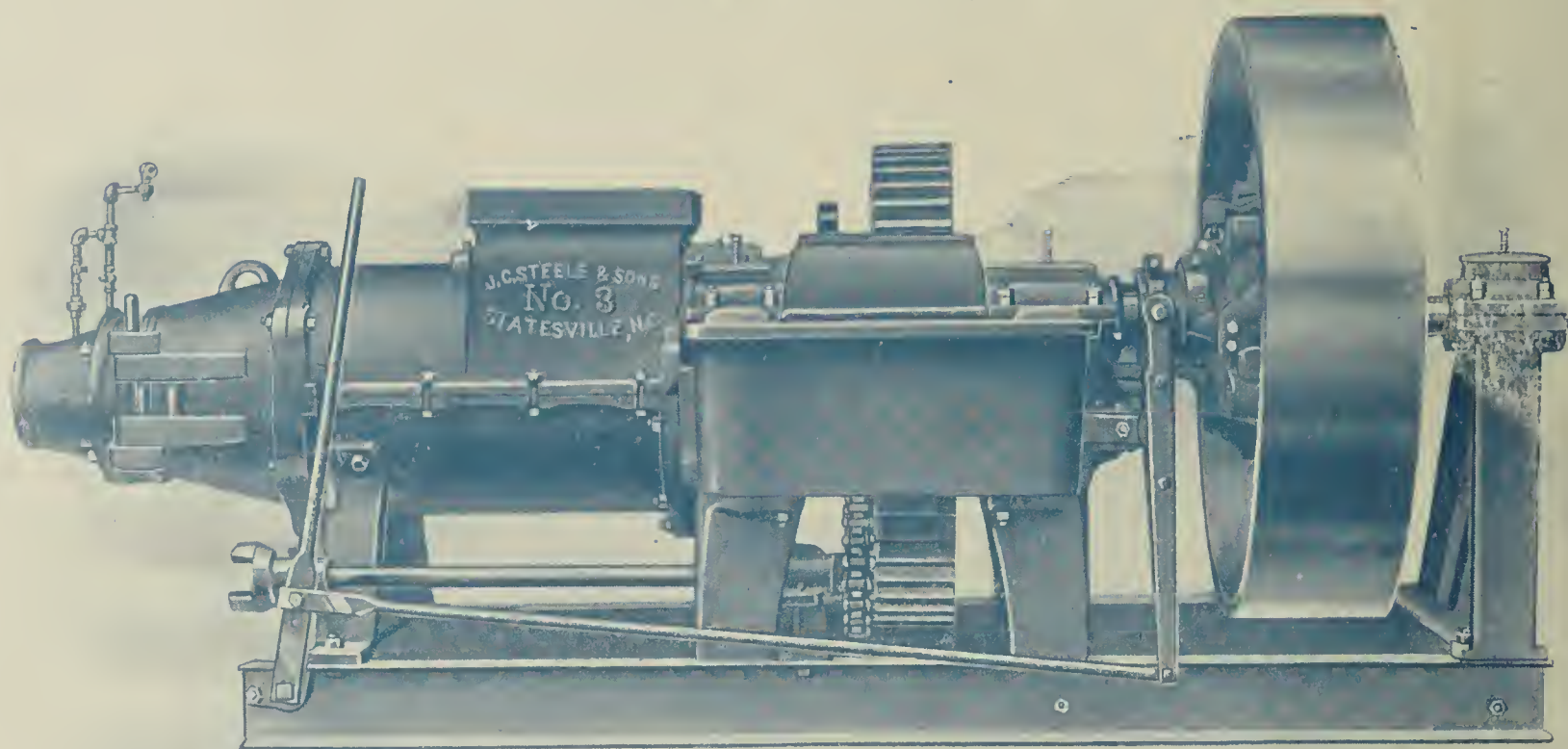
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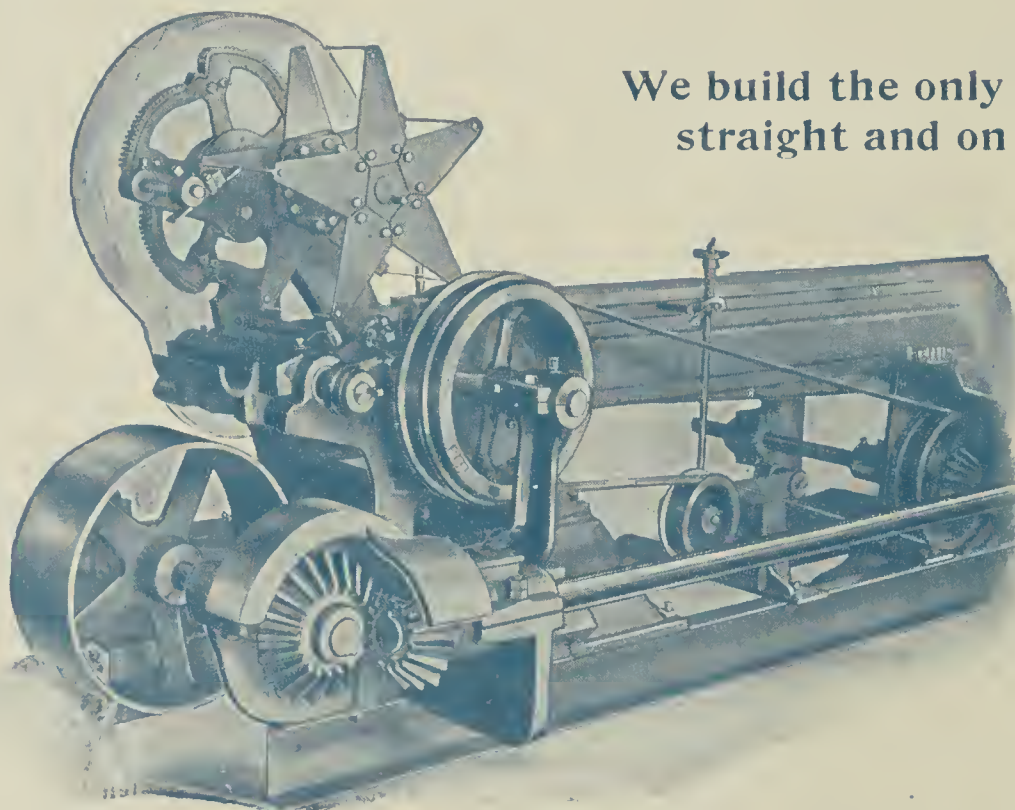
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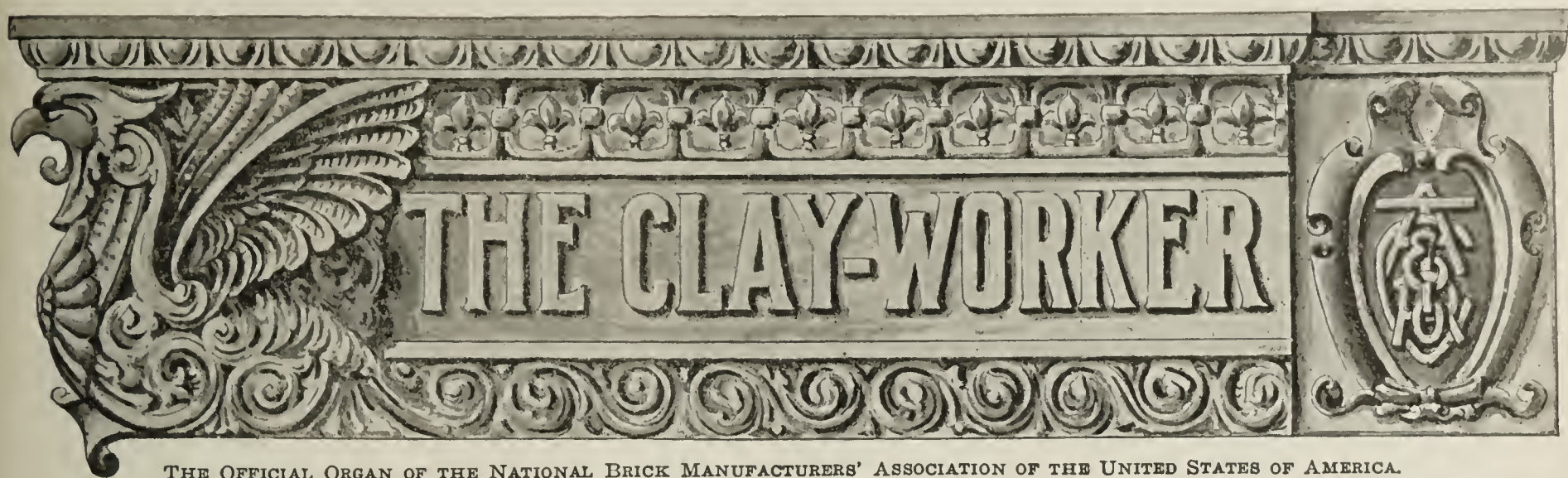
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THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 76

INDIANAPOLIS, SEPTEMBER, 1921.

No. 3

## BRICK, NEW AND OLD THE BEST BUILDING MATERIAL

The Cadle Coliseum an Interesting Object Lesson Which Demonstrates Anew the Indestructible Character of Common Brick. A Great Auditorium That Embodies the Latest Word in Tabernacle Construction.

ON OUR FRONT COVER page we present a close-up photograph of the entrance to the new Cadle Coliseum, a remarkable building now in course of erection in Indianapolis, a block east of The Clay-Worker sanctum. It is remarkable both in conception and in construction and demonstrates what one man can accomplish if imbued with spirit and possessed with the courage and will to achieve a desired end. To acquire a building site valued at

the tabernacle, with the exception of the front brick used for the trim in the windows and doorways. It demonstrates anew the oft turned phrase that building brick are indestructible, and for that reason have a value in all structural work beyond that of any other material.

We well remember that D. V. Purington, of pleasant memory, said in these columns that of all the wreckage of the great Chicago fire, the only thing of



Architect's Sketch of the Cadle Tabernacle.

nearly \$200,000, then to erect thereon a great tabernacle costing \$75,000 is a pretty large undertaking for an individual, but that is just what is being accomplished by E. Howard Cadle, of Indianapolis. It is all the more remarkable because this individual has acquired his present wealth through legitimate business ventures during the past half dozen years.

The feature of particular interest in this tabernacle is the use of second hand brick. Nearly 300,000 brick were used in the operation, nearly all of them taken from the buildings torn down to make room for

value in rebuilding the city was the building brick. They were used again, but the concrete, steel and stone had to be carted away to the dump, a source of actual expense in clearing ground for rebuilding. The same is true of all the great conflagrations, that of Boston, San Francisco, Baltimore and more recently at Atlanta. Every great fire leaves its trail of destruction in which there is as a rule nothing of any value except the bricks.

The Cadle tabernacle nears completion and will be one of the finest structures of the kind in the country.



It occupies the quarter of a city block and has a frontage of 195 feet one one street and 202 feet on the other. It is of brick and steel construction. The brick will be stuccoed with the exception of the trim which will be in a dark red vitrified brick. It will be attractive in appearance, though we are of the opinion that in time a better appearing wall would have been made by using the brick without any covering, but that's a mere matter of taste. The tabernacle will seat 10,000 people, and have a choir loft accommodating 1,000, with an assembly room seating 500 people for committee purposes. It is located in the heart of the business section of the city and will be used for con-

## GIVING A THOUGHT TO FIRE INSURANCE.

By John P. Morton.

(No. 1)

**C**OULD A FIRE destroy the Boroughs of Manhattan or Brooklyn in the New York City of today? Those who are responsible for the futures of the great stock fire insurance companies constantly ask that question of themselves as they keep in their minds fairly exact figures showing the amount of liability which would result from an uncontrollable fire.

New York has more fireproof buildings than any other city in the world. To us they mean fire barriers dividing the city—much as do fireproof divisions walls in some manufac-



One of the Side Entrances of the Cadle Tabernacle Showing the Common Brick (Old) and the Face Brick (New) with the Lower Part of the Wall Being Stuccoed.

ventions and other great gatherings on special occasions, but the main purpose is to accommodate religious revivals in which Mr. Cadle is particularly interested. He has already arranged with Gypsy Smith to preside over the first meeting which will be held early in October.

In a recent interview, he said, "I wish especially to announce that the American flag will fly from this tabernacle the year around, and the great flag of the cross will be on the pulpit." The great auditorium will be heated by steam and will be equipped with every modern device for the comfort and safety of the vast audiences that will assemble within its doors.

turing plant. The ordinary blaze is smothered before it has a chance to assume alarming proportions, and yet a conflagration so great as to startle the world is always a possibility. I am not an alarmist and therefore wish to emphasize the fact that there would have to be a most remarkable conspiracy of untoward fact and circumstance, before such disaster could sweep New York. But—well, that's our biggest problem, just the same, in New York as well as in every other city in the country.

It has been my privilege to observe fire underwriting from the reconstruction days that followed the Civil War to the present when we are reacting from a world struggle that was for the protection of our very existence. It has been a pride and a satisfaction to me to know that alone of all the great modern business agencies, fire insurance companies have not



increased the cost of their services to the public in this period of high prices. When the war was on and we were all readjusting ourselves to the higher costs of living, a temporary surcharge was made, but that increase of cost was only 10 per cent, and it remained in force only a few months. Ours is not a business of immediate results and we take our risk today, but our profit, if any, may only be determined in the distant future.

The average cost of fire insurance, however, is not only lower now than it was before the Great War, but it kept on going down during the war when everything else went up from 50 per cent to 300 per cent. Perhaps your own rate did not change, but it is still true that the average cost was lowered. That, too, in the face of a demand unprecedented in the history of the business due largely to the enormous increase in values. Fire insurance at least was one business where demand did not make for extortion or overcharge when the pressure was on.

The fire that gave birth to fire insurance as a business occurred in London in 1666. This was a bit before my time, but I have observed at close range the results from the Chicago fire of 1871, followed by the Boston conflagration of

Boston conflagrations when wildcat banks and wildcat insurance companies were numerous. There are few of that type in existence today; the insurance laws of all the states are too rigid and the public supervision is too close.

The later conflagrations mentioned are only three of a score or more during my lifetime, each of which has taught its lesson. Their combined effect has been to lower the average cost of fire insurance to you! Sound like an absurd statement, doesn't it? And yet, literally, it is true. Conflagrations have taught us to urge you to erect better buildings and adequately to safeguard them from fire by every approved mechanical device, and by cleanliness and careful management, the inducement being to give you heavy credits in your premium rate when you follow our counsels. Today no architect of any great structure would dream of beginning his plans without consulting the men behind the whole rating system of fire insurance—the engineers who specialize for us on how to prevent and extinguish fire and how to build to resist fire.

All this is back of the modern science of rating in fire insurance whereby the insured practically fixes his own pre-



E. Howard Cadle, Indianapolis.

1872. Disastrous as they were to the companies of that day, the economic effect was small compared with the destruction in three days' time of \$350,000,000 of property in San Francisco in 1906.

Do you recall what happened in 1907—the year after the San Francisco fire? Was there not a panic that tested us all? Such an enormous shifting of values could not be made without a severe reaction and the economists told us that the prime factor was the sudden withdrawal of over \$200,000,000 from investment by the stock fire insurance companies to pay their losses in San Francisco.

Maybe this is a good moment to point out that fire insurance only indemnifies; it does not restore. That money paid out in San Francisco came from capital and surplus funds of stock fire insurance companies and from the pockets of their stockholders. To pay their losses there the companies had to cash in on their prime securities. Further, they had to call into their business about \$90,000,000 of new money as a result of that one conflagration. Despite all this the fatalities among companies occasioned by that catastrophe were negligible compared with those following the earlier Chicago and



Corner of the Cadle Tabernacle Showing the Wall of Reclaimed Brick Partially Covered with Stucco.

mium rate and in which his state, sectional and city conditions have an important bearing. Rate making is the manufacturing end of the business of stock fire underwriting.

#### SILICA BRICK PRODUCTION.

THE PRODUCTION of silica brick by the refractory branch of the industry during 1920 amounted to 255,000,000 brick, valued at \$15,540,000, according to a preliminary report of the U. S. Geological Survey prepared by Jefferson Middleton. This was a sort of peak period in values but not in production. The average price for silica brick last year being \$60.94 a ton. The quantity was exceeded in 1917-1918 when the stress of war stimulated production. And while the price of 1920 was the highest on record the value for last year was exceeded by that of 1918, but both the output and the value of 1920 were considerably above the prewar level. The output was 46 per cent greater, the value 307 per cent greater, and the price per thousand 178 per cent greater than in 1913.



# N. B. M. A. CONVENTIONS AS AN "EXTENSION SCHOOL."

Some Excerpts From a Discussion on a Convention Paper That Reaped a Rich Harvest for Many Members of the National Association.

By J. J. Koch.

A SHORT TIME AGO a bunch of brickmakers and brick salesmen were having a confab about the present status and also the future outlook for the brick business. Naturally, the OPTIMISTS saw a bright and rosy future for the brick business, possibly not right away, but coming sure as fate—because of the house and home shortage. The PESSIMISTS, however, could not see it in that light at all, but to the contrary—they predicted all kinds of disappointments as, the big majority of people had no permanent homes, lived beyond their actual requirements and necessities, demanded big wages for doing very little work and in that way, made investments in new buildings very unprofitable.

The Big Calamity Howler—a party who never at any time was very successful (in that he thought he had some wonderful secrets in the brick business which he never imparted to any one else) at this time saw a copy of the August, 1921, issue of *The Clay-Worker*, and his attention was attracted by two items on the outside front cover; one wording—"Official Organ of the N. B. M. A.," and the other was a pictorial reproduction of a bit of home-made brick architecture, utilizing practically worthless material, and designed by C. P. Mayer, of Bridgeville, Pa.

The Calamity Howler then and there proved his narrow-mindedness by asking, "What good have these conventions ever done to anyone?" In return he was asked if he had ever been to any of these conventions? He admitted he had not, for he could see no use in going; as the smart man, who knows his business don't tell all he knows. One word led to another; but the majority ruled that the possession of the reports of the conventions of the National Brick Manufacturers' Association constituted a valuable reference library and the contents of said reports proved that the convention members were not as secretive as you, Mr. Calamity Howler, whose reply was characteristic of his disposition, when he made the following statement and request:

"C. P. Mayer is certainly a man of gumption or he could not have designed and built such an artistic semi-rustic fence and entrance out of such practically valueless material as 'Rattled' paving brick. But that does not prove to me that Mayer ever contributed any information, worth while, to the N. B. M. A. conventions. You know I am from Missouri and you must 'SHOW ME'. The challenge was accepted, and the writer was delegated to consult the published records of the convention to ascertain whether Mayer was as narrow-minded as our friend Calamity Howler. This episode is the reason for writing this story, and at the same time I want to show the 'Information Bureau' character of the conventions of the N. B. M. A.

"The reason for naming the N. B. M. A. conventions an Extension School is based on statements made in the heading of this article by Prof. Edward Orton, Jr., at the twenty-seventh convention of the N. B. M. A., at Chicago, 1913.

"I did not attend the Indianapolis body, as I had been advised, and, it was not until 1894 at Chicago that I first attended a convention. I came with a mission. I wanted support for the establishment of a clayworkers' school. But before I had attended the last session I was awakened to the fact that

I was dealing with a school and one of no mean order. It has been said, not once, but dozens of times, that the N. B. M. A. is essentially an educational organization. \* \* \*

"\* \* \* The N. B. M. A. is in a sense an extensive school—and is giving to its membership about the same kind of help that the farmers' institute gives to the farmers, and the teachers' institute gives to teachers, etc."

Going back now to Mr. Mayer and his service, I call attention to a paper presented by him at the twenty-first convention of the N. B. M. A. at St. Louis, in 1907, under the title of "Cutting Eye Teeth in the Brick Business." This paper exhibits the same broad gauge spirit found in all the convention papers, in that Mr. Mayer not only cites his trials and tribulations, but also states the applied remedies. The following excerpts will prove interesting:

(Trouble) "The belt furnished, guaranteed to be equal to the best in the land, seemed to have a peculiar hankering to stretch about one inch an hour."

(Remedy) "The belt stretching trouble was cured by substituting a Leviathan belt, which is entirely satisfactory."

(Trouble) "The dry pan pulverized more clay than the elevator was willing to convey. The elevator boot seemed to have been especially constructed to choke up, and usually, before the machinery could be brought to a stop, did insist on burning the elevator belt."

(Remedy) "Elevator clogging was stopped by putting in a 14-inch belt and 7 by 12-inch elevator buckets—thus making the elevator capacity greater than the pans' output and the trouble disappeared."

(Trouble) "The carrying belt between the pug mill and the cutting machine wanted to take the place of the pug mill, by persistent efforts, in pulling off and mixing the underside of the clay."

(Remedy) "The trouble of the belt pulling off of the underside of the clay column was caused by a creation of a vacuum between the belt and the stiff mud column, and after many experiments and remedies applied we discovered, felt or cloth (either wool or cotton) applied on the belt would prevent the creation of a vacuum, and we now use a patent covering, that we have patented (as this was 14 years ago, such patents have no more life) which results in the preservation of the underside of the column."

(Trouble) "The cutting machine, in addition to cutting brick at right angles and straight, was inclined to cut circular parallelograms, and also deposited little particles of clay on the face side of the mud column. Its evident purpose was to make employment for the finishing roll. The finishing roll not to be outdone, promptly pressed the particles of clay deposits, on the face of the column, into the brick, thereby giving the brick a small-pox appearance."\*

\*This phenomena might be used as an initial step in making a new type of rough faced brick.

(Remedy) "The particles deposited on the face of the mud column are cleaned off by a system of blowing air, at a ten-ounce pressure, out of a knife-like device across the face of the column, thereby removing all particles."

(Trouble) "The transfer car had been built so as to re-



quire at least three men to operate the same, one to hold the transfer car, one to hold the turn table, and one to handle the brick car."

(Remedy) "Thus we had to invent a device on transfer car brake, and by throwing a lever, firmly sets the transfer car on the rails of the transfer track while the cars are shifted off or on. We also have devised a turn table locking contrivance, by which the turn table is locked to the transfer car, but released at will, and makes it possible for one man to transfer the brick instead of three. This device also bars the way to mishaps to the brick while handled by the men."

This last paragraph conclusively shows that a close observation of the defective working of clayworking machinery will lead to thoughts of deleting such bad effects and cause the installation of proper remedies. Of course Mayer's statements refer to conditions as they were a long time ago, but undoubtedly, manufacturers of cars profited by his statements and future car deliveries were equipped with the proper facilities? So even in this indirect way car users had the benefit of the suggested remedies.

In Mr. Mayer's paper are also found some interesting statements about the big bugaboo whitewash, as follows:

"Then we went to work with a determination to overcome the scum (whitewash) by experimenting and inquiring of many manufacturers, and that demonstrated how little is known about preventing scum by the average brick manufacturer, and the many peculiar suggestions to remedy the trouble was laughable.

"Some told us we dried our brick too fast; others said too slow; some said we kept our tunnel too hot; others said too cold; others advised more air and to increase the height of our stack; and that we were giving the soluble salt in the material too much time to dissolve. We began reading on the subject and experimenting on the suggestions and finally succeeded in preventing the scum from appearing on the brick.

"After completely exhausting all the suggestions recommended for preventing scums and using many tons of precipitated carbonate of barytes, we succeeded in preventing the scum but the cost was prohibitive, being 91 per cent per thousand. We then began experimenting with different strata of shale, separate one from the other, and to our satisfaction learned that only the lower strata contained soluble salts, and since that time we refrain from ever using the lower strata for the face brickmaking."

It seems to the writer that the above solution might easily be tried out by others who have trouble with whitewash.

It certainly is apparent that this epistle is full of suggestions which, if rightfully applied, will lead to improvements in the art of brickmaking. At any rate other subjects will be dissected and analyzed with a view to take up some of the papers of N. B. M. A. for future publication.

#### AN ADDITION TO THE STAFF OF N. P. B. M. A.

A further expansion of its service has been made by the National Paving Brick Manufacturers' Association. The organization has been enlarged by the addition of Stanley A. Knisely as Economist, according to recent announcement by Maurice B. Greenough, Secretary.

Mr. Knisely comes to the association from the Cleveland Plain Dealer, where he was a writer on economic subjects. Previously he was connected with financial and technical journals as an investigator and a writer on banking and industrial problems.

Through Mr. Knisely's department the association will intensify its studies of brick pavement service from an economic standpoint. Reports on these studies will be issued from time to time.

## A VISIT TO A MODERN TERRA COTTA PLANT.



TERRA COTTA was first manufactured in this country at Perth Amboy, N. J., in 1877. The terra cotta made in those days was indeed different from the modern terra cotta of today, at that time it all being of a reddish color. Eventually the art of making this valuable building material became more developed and manufacturers finally got buff and slip or natural clay colors. Many people of today, not having any practical insight on this manufacture, think that terra is simply a natural color only, that is to say nothing but a clay burned red. Terra cotta was first used as a cheap substitute for more expensive stone. It has developed to such a great extent that today terra cotta means a superior building material. One of the many advantages of terra cotta is that it can be made of any color, shape or design.

Many of the very same processes used in the manufacture of tile, crucibles, porcelain and pottery ware are found in the manufacture of terra cotta. First the crude or raw clay must be ground by pulverizers, in a department which potters term a grinding department. This ware must then be dried without cracking, the pieces being matured and oxidized at a proper temperature in the kilns, then come the pressing, moulding, glazing and modeling of the ware. Because of its complicated nature, terra cotta must be put into a different class than other clay products.

Many people have an idea that the firing and modeling etc., of this ware is the main feature, but we must not neglect the more technical departments, therefore we cannot overlook one of the most important departments in this manufacture and that is the drafting department. It is here that full sized drawings or tracings are made of every piece of ware. These drawings are all made to show the actual shrinkage in the process of firing and drying. The next step in the manufacture of terra cotta is the plaster or moulding department. Here the drawings of the drafting department are received and models of the different pieces are then made. When a piece is to be used a number of times several molds are made. This is to expedite the manufacture. In order to facilitate the manufacture of terra cotta a template of the mould is made of some metal and is then placed on a machine.

The raw mix of plaster of paris is poured upon the paper covered wooden boxing which serves to keep the model hollow, thus saving weight and plaster. This is located on the bed of the machine and the template is moved back and forth, more plaster being added and the process kept up until the plaster takes the shape of the full aperture of the template. When this operation is finished, the models are then permitted to dry and moulds made of the model by pouring plaster over it. In most instances the moulds are usually made in five pieces. After the drying operation is completed the moulds are conveyed to the pressing department.

When the clay first reaches the factory it is usually placed in huge storage bins. It is then carried to what is called a jaw crusher and from there to a pulverizer. These operations must reduce the raw clay to such a degree that it must pass through from a sixteen to eighteen mesh screen. The material is then conveyed to a huge mechanical screen, by the means of conveyors. To mix with this crude clay is a material called grog, which is made by grinding saggers and broken or defective pieces in a grog mill or dry pan. The grog forms from 30 to 40 per cent of the body of terra cotta. The ground or prepared clay is then conveyed to the pugging machine, which may either be of the horizontal or vertical type. In this instance, it is a horizontal mill,



not because of its superiority but because of its easy filling qualities. In this mill the clay is thoroughly amalgamated. To this clay, now in the pug mill, is added a solution of barium carbonate and water properly mixed. The barium carbonate is added to combat or neutralize the action of any soluble salts which might present themselves in the clays. From here the clay is moved to taper or cube mills which tend to cut into cubes. It is then loaded into boxes of about one-ton capacity. It is then delivered to the various benches in the pressing department. The boxes are then removed and the large clay cubes rest upon a table or bench, when it is ready for pressing into terra cotta moulds. The plaster moulds are then filled with a specially prepared clay of about an inch to an inch and a half thick. Cross partitions are then placed in the pieces to act as a reinforcement in drying and burning. The pieces are then removed and permitted to dry over night. The surface is then finished by hands skilled in this line. The ware is then transported by small flat cars to the drying room which is always kept at a temperature ranging from 120 to 140 degrees. It is dried by means of steam coils over which air is passed and then passed into the room. This air is recirculated back to the air fan and then to the room. This operation is repeated for approximately from 30 to 40 hours before it is then ready for firing in the kiln. In more modern plants a carrier or conveyor system is used which is a great improvement over the old methods of drying, and which reduces the time of drying from approximately 15 to 20 hours. The old system of drying is gradually becoming extinct in most of the up-to-date plants.

From the drying room the ware is conveyed to the spraying rooms and the particular ceramic finish is applied or sprayed by means of atomizers. From the spraying rooms the ware goes to the kilns. The time required for firing is usually from a week to ten days. In modern plants the continuous tunnel kiln is gradually coming to the fore which has many redeeming features over the old kilns; one of the many features of which is that the firing time is reduced from a week to ten days to from three to five days.

From the kilns this ware is transported by trucks to the fitting or polishing department where it is carefully inspected. If the inspector or superintendent detects rough edges, it is placed on a grinder and the rough edges ground off. This thus insures a perfect fit. After this operation is completed, the material is ready for the shipping department when it is shipped to contractors throughout the civilized world.

#### BARGING BRICK IN NEW YORK.

GOVERNOR NATHAN L. MILLER, of New York, with quite a party recently made an inspection trip through New York's 165 million dollar barge canal to Little Falls. During this occasion he made a number of speeches and said a number of interesting things, one of which touched upon shipping brick by barge. Speaking of how the canal transportation helps solve the housing problem he said:

"Here is an illustration or two of how it works out. A brickyard at Mechanicsville right on the canal. The people who were making the bricks in that yard never thought of using the canal. They had no facilities to ship by canal. It was easier to load into the car on the switch and have an engine come along and switch it on the track and go ahead. The state put in the necessary handling machinery by which to load the bricks economically. With what result? Bricks are now being shipped from Mechanicsville to New York in barges capable of carrying four hundred thousand bricks at a reduction in freight costs of \$2.50 a thousand. That is \$1,000 a boat load. We have a housing problem very acute

in the city of New York. By this method they are able to get the brick \$2.50 a thousand less and have them delivered more promptly than they would be delivered by rail, which will act as a factor in helping to relieve the housing shortage."

#### WHO'S WHO AMONG CLAYWORKERS.

Side Lights on Herman Mueller, One of Trenton's Distinguished Citizens.

A RECENT TRIP to the ceramic metropolis, Trenton, N. J., afforded the pleasure of a chat with Mr. Herman C. Mueller, who for many years has played a leading part in clayworking, particularly in the art tile branch of the business. A man of artistic instincts and with it a remarkable fund of good horse sense, he has pioneered the way in the production and use of art tile for exterior purposes and so rendered a great service to the building public. Herman is a



Herman C. Mueller, Trenton, N. J.

big man, physically and mentally, with an unusual sense of humor, making him a most companionable good fellow. He charms by the very simplicity of his nature.

Seated in his private office which reminds one of the inner chamber of a multi-millionaire, it is so different, for it is a workshop not a rest room, we chatted over clay craft affairs for a time. When I said, "Herman, you have had an unusual and varied career. You have a host of friends and admirers in the clay craft who would be glad to know something more of your life work." He replied, "Randall, you might as well ask me for an autobiography, and off hand would say, ask me something easy. While I have not so very much to do for the present, I must occupy my poor brain with the possible future. The past—that is my own past—has never bothered me much, unless it came in the shape of a 'note.'"

"Well, here it goes: I was born by reasonably poor, but unreasonably honest people in the barbaric land of Germany. I was at first sent to a preparatory school of technology, but coming in contact with long-haired, velvet jacketed, jolly



students of the art school, I made up my mind to become a great sculptor. (I found out about 30 years later that I should have stuck to the engineering course.)

"After leaving the Academy of Fine Arts, I traveled and worked in many places, modeling, carving, designing, etc. Then, I have to mention it, I became a soldier and served until I reached the exalted rank of vice-corporal.

"Having enough of this enforced heroism, I came to this glorious country, now 42 years ago, and I will say that I enjoyed my work and life thoroughly. At first I tried many things. I even made tombstones, I lithographed, carved stone and marble, modeled terra cotta, stucco, anything that came along. (The figures over the entrance of your Indiana State House have also been one of my earlier sins.)

"And finally I got stuck in the mud, that is: I became a clayworker by making tile.

"Have I regretted it? Not by a long shot. Clay is a sticky mud—it does not let a fellow go.

"My temperament?—I like to go sideways to the refreshing brooks, I do not like the dusty broad road tramped over by the multitude. I like to sit on the grass under the trees and think of the poor fellows who take out patents, so they may hog the entire results of their little bags of tricks. I furthermore like, but what is the use? After the 18th Amendment we have to cut out several things we like."

Written for THE CLAY-WORKER.

#### PACIFIC COAST NEWS.



AFTER A PERIOD of idleness covering about sixteen weeks members of the building crafts of San Francisco have agreed to return to work as individuals rather than organizations and at a reduction of 7½ per cent in the wage scale which was operative at the time they went on strike. Members of the Rank and File organization voted to accept a resolution and return to work under such conditions as necessary to gain employment. This does not mean that the unions, as such, accept the American plan, but as individuals they deemed it expedient to "save the situation" by accepting the cut, and their return to work signified that the open shop prevails in this city, and, in the opinion of employers, this is considered a decisive point.

Atholl McBean, secretary of Gladding, McBean & Co., prominent brick and terra cotta manufacturers of this city, has taken an important part in bringing about a settlement of the strike. As secretary of the Industrial Relations committee he has sought to co-operate with employers and craftsmen for the purpose of serving the public. The committee is made up of employers who have agreed to do away with combinations among themselves for the purpose of keeping up prices of materials and labor, and it assured the laboring men that when a final adjustment is made in regard to wages that there would be representatives of both labor and employers at the conference. The purpose of the American plan is not to destroy the unions, but to give the employer the right to employ whom he chooses, whether the one employed is non-union or otherwise, and it gives the employee the opportunity to work whether or not he belongs to a labor union.

The Industrial Relations committee set down the following terms, which were virtually agreed to by the craftsmen:

1. A 44-hour week; an eight-hour day, with four working hours on Saturday.
2. A fixed wage until November 12, 1921, with no change in wages at any time except after a wage scale has been set by a wage board and after advertising and a thorough hearing of individuals or representatives of both labor and employers.
3. The adoption of the open shop, without discrimination against union or non-union men.

On August 30 approximately 3,000 members of the building trades returned to work and, in the opinion of contractors and prominent members of brick manufacturing plants, San Francisco business will rapidly settle to normal and the much-needed building will go forward at once.

It is expected that the new plant of the California Pottery Co. at Merced, Calif., will be set in operation about the middle of September, according to a statement made recently by Frank A. Costello, president of the company. The first unit of four kilns has been erected and the installation of necessary machinery has been in progress for several weeks. All of the heavy machinery has been installed, and all that remains is for the connection to be made with some minor machinery which is now being placed at the plant. This will be placed before mid-September. When the plant opens, with about 30 workmen, it will take five or six months to turn out the clay products orders which have already been booked.

In spite of the labor troubles under which San Francisco has been struggling for the past three months enough open-shop men were found to finish paving a considerable distance on Taylor street near Geary with vitrified vertical fibre paving brick. Plans and specifications have also been made to continue paving near the beautiful highway facing the sea in the vicinity of Cliff House. This will be done in vitrified vertical fibre paving brick.

Oakland and Berkeley, Calif., have been carrying on an extensive building program during the summer, and although affected more or less by the building strike, there has been quite a steady demand for hollow building tile in the construction of residences and school houses. The Livermore Fire Brick Works is furnishing the terra cotta and brick for the Livermore branch of the Bank of Italy, and construction is going forward daily. The Livermore works also has the contract for the architectural terra cotta for the Melrose branch of the Bank of Italy and the California Brick Co. has the contract for the new high school building in Santa Clara, Calif. The latter is made of 12-inch red ruffled brick. Paul Messner of San Francisco is the brick contractor.

The Southern Pacific Brick Co. is furnishing 100,000 brick for the Tulare, Calif., high school building, while numerous orders have been received for hollow tile. The new hotel at Tulare is also to be made of Southern Pacific bricks, an order for 350,000 having been recently received.

R. F. Angulo of Santa Barbara, Calif., who for years has been making the Old Mission tile, so famous among brick makers the world over, has been in Monterey this summer seeking the clays from which the Indians, in the days of Father Junipero Serra, made the historic tile. Mr. Angulo is one of the few men in California who knows the exact process for making this famous tile, and he has supplied many of the large mansions in the vicinity of Santa Barbara. His work is done, as in the old mission days, entirely by hand. He has had thorough tests made of the Monterey clay which have been very satisfactory, and it is possible that within a year he will come to Monterey for the purpose of establishing a plant. Mr. Angulo expects to experiment in making the peculiar flat brick which were used so much by the old mission fathers.

In building the custodian's house for the famous Carmel Mission near Carmel, Monterey County, Mexicans and Indians were employed to make the adobe brick by hand. The style of both exterior and interior of the house follows that of the Carmel Mission with exceedingly thick walls, large fireplace and tiled roof. For many years priests of the Monterey parish have taken a great interest in restoring and maintaining the ancient shrines both in Monterey and Carmel, and it is owing to their efforts that the Carmel Mission was completely restored. It is difficult for the impressionable traveler to forget the sight of this quaint adobe structure in the idyllic Carmel valley with the "wine-dark sea" surging incessantly just over the hill.

SUNSET.



## URGE USE OF DRAIN TILE IN ROAD IMPROVEMENT.

Rural Highways and Agricultural Lands Can be Much Improved by Proper Drainage of the Substructure and the Elimination of the Dangerous and Expensive Open Ditch.

IT IS NOW GENERALLY understood that the impairment of our roads is due more to the fact that the substructure—the soil somewhere underneath the road—fails to support the surface, than to any other cause. It is true that we are very apt to place road injury as resulting from the traffic, but traffic over the roads is the reason for the road, so that whatever injury comes from the use of the road, compels expense in cost and maintenance and that burden must be borne. If we can stabilize our subgrades and render them capable of supporting the surface, we have entirely eliminated the expense made necessary which results from that destructive agency.

It must be appreciated that soils soaked with water expand and that soils so saturated, subject to low temperature are subject to still greater expansion, so that when made subject to such influences, the surface of the road is raised up, weakened and becomes an unstable mass of loose material, unable to bear up the lightest traffic. In such condition when used, we are wont to say that the traffic has destroyed the road, when in truth and in fact the cause is directly attributable to the water in the subgrade. It is scarcely necessary to say that this condition will not happen if the subgrade is maintained in a dry condition. That is self-evident. Our observation as to the strength of the bearing power of dry soil compels us to accept the truth of this statement.

What must be done, therefore, to create and maintain a dry condition of the subgrade or as nearly so as possible, is to provide means by which the moisture will not enter or remain in this portion of the road. Naturally some one says drain. Drainage is the solution. But that information does not go far enough. The drainage must be effective for the purpose.

The almost universal method of drainage is the construction of big open ditches on the side of the road. But observation as to their behavior and the disadvantages of this character of drainage needs to be given careful consideration to arrive at an answer as to whether or not it is the best and most economical method for securing the results wished for.

In the first place, the construction of these side ditches costs a lot of money. It costs a great deal more to maintain them. In the winter following a frozen condition with a succeeding rainfall, they become dammed up at places and do not function. Instead we have a system of reservoirs along the side of the road by which moisture is supplied to the subgrade by capillary attraction, furnishing to the road-bed and subsoil underneath, the very element of destruction which we wish to avoid. More rain, greater saturation and more frost, ends in the complete destruction of the road so that it is made entirely unfit for travel. Then again, in the summer time when we go to mow the weeds and briars from the roadside, the expense mounts high, when if the same operation could be performed with a mower the expense would be insignificant.

Again these open ditches by the roadside are and always were a hazard of danger and particularly so now when so many automobiles are used upon the road, these side ditches are as dangerous to life as if the precipice was multiplied to one hundred feet. The destruction resulting from a plunge into the ditch is equally fatal.

Contrasted with this method of drainage and at no greater

expense in the end, is the report to the more liberal use of drain tile. This can be placed as disposal drains on either side of the road and takes the place of the open ditch. Below the freezing point, they will work at all times, winter and summer, whenever there is sufficient moisture in the ground to be carried to a final disposal place. Then frequent drains underneath the road-bed itself leading to the disposal tiles on either side of the road, will tend to prevent the road-bed saturation from capillary movement of moisture. The direct rainfall can readily be cared for at manhole openings located at short distances from each other.

Thus the employment of a liberal use of drain tile for road drainage not only affords, but it is the only manner at present known of successful road drainage. It does not entail the everlasting annual expense and functions efficiently for the purpose, so that in the end it is far less expensive than the open ditch.

The use of drain tile for road drainage in this manner is of equal importance regardless of the character of the wearing surface. It adds to the durability of the brick road and is absolutely essential to the life of a road of any character. Even a graded dirt road is benefitted much beyond the expense necessary for the installation of a drainage system by the use of the tile, making the drainage structure a permanent and lasting one and thus eliminating a recurrence of expense which has become an annual tax and a great burden to road upkeep throughout the country.

### A HINT TO HOLLOW TILE MANUFACTURERS.

As homes and residences are built in these days, the use of hollow tile is not often thought of, which would indicate that the public has not been taught to think "hollow tile." With this thought in mind there certainly should be an educational campaign in advertising instigated that would tend to make the prospective home builder think hollow tile the instant he thinks of building.

It seems the manufacturer could use this as a basis, and he should gather around him a sufficient force that could follow up and sell the tile to the proper parties.

In some localities the building codes make the prospective owner think of fireproof construction, but the thought should be so imbibed in every one's mental makeup that it would be thought of automatically.

It is pleasing to note that people are more and more coming to think in terms of fireproof building. There is a fertile field among the agriculturists. These people live in sparsely settled communities where ample protection is not always afforded against a fire hazard or a total loss caused by the untamed elements.

Farm buildings can be made as attractive as any other building, even though in a rural section. There the life of the building is increased to such an extent that wood is almost out of the question.

In these times of talk of forest conservation, some other item of construction possibilities should be brought out. Burnt clay is really and rightfully the one to be so considered. There are many treatments that can be given a building that is not only attractive at first, but increases in beauty, as "Father Time" has an opportunity to get in some work.



It is safe to assume there is a great percentage of farmers who intend to build during the coming year. Now would be the time to get in some work regarding their frame of mind. Do not knock, just boost. Give them the facts and then stand back of what is said. A hollow tile wall or the new type of hollow tile wall built of brick would help to keep the stock, or even the family of the tiller of the soil in a comfortable home during the oncoming winter.

Seems a good way to promote the idea of "Own your own home" would be for the banks to step in with an idea or a plan of getting the public to make deposits in their institutions until they have an amount sufficient to pay the first installment on their new venture. A great deal of interest could be thus aroused, and undoubtedly would become an epidemic in time.

#### THE IDEAL LINCOLN HIGHWAY SECTION.

PLANS ARE being completed for the building of a section of ideal road on the Lincoln Highway in Lake County, Ind., between Dyer and Schererville. The general specifications for this ideal section of the Lincoln Highway are as follows:

"Forty feet of concrete paving, ten inches thick, and reinforced with steel, laid in the center of a one hundred foot right-of-way and flanked with five foot shoulders.

"Drainage will be secured by underground tiling, there being no open ditches.

"The twenty-five feet of right-of-way left on either side of the traveled roadway will be beautified and a walk for pedestrians will be provided at one side, while the highway itself will be lighted for night travel, in accordance with plans now being developed by the foremost illuminating engineers of the United States."

#### FIRE BRICK COMPANY EXPANDS.

The Dover Fire Brick Company of Cleveland, Ohio, which has operated plants for the manufacture of fire brick at Dover, Ohio, and Strasburg, Ohio, for the past fifty years, where the "Dover" and "Buckeye" brands of fire brick have been produced, has recently entered the Missouri field, taking over the Farber Fire Brick Company's plant, located at Farber, Missouri.

At this plant is manufactured the brand of fire brick known as "Farber Mo. High Grade." The fire clays of northern Missouri are known as being of the highest grade and the Dover Company believes its deposits to be of the best in that locality.

About twelve or fifteen years ago the Dover Company took over the fire brick plant at North Bend, Pennsylvania, since which time they have handled the product of that plant under the name of "North Bend." This brick ranks with the highest grades of Pennsylvania manufacture and is known and used where the highest quality of refractories are required.

With four up-to-date plants in Pennsylvania, Ohio and Missouri, each turning out the best in its class, the Dover Company feels that it now has a complete line of fire clay refractories.

#### FELDSPAR.

There is a little pamphlet issued by the Chas. M. Franzheim Company, Wheeling, W. Va., on the subject of feldspar in the pottery field. Most of us know that there is such a thing as feldspar, but for many of us who are not technically informed as to its properties and uses this little pamphlet contains interesting and valuable information. It is illustrated with views of the quarries and ledges of the Maine

Feldspar Company, Brunswick, Maine. Incidentally there is a general historic review of the ceramic industry that is also interesting and instructive.

#### CALIFORNIA CLAY COMPANY CONDUCTS RESEARCH WORK.

Research work in clays is being carried on by the Alberhill Coal and Clay Co., at a laboratory and technical institute recently opened by them at the Standard Potteries plant, Los Angeles.

The laboratory is intended to serve all those interested in clay products production who may contemplate locating a manufacturing plant in Southern California. A study filled with clay working books and trade journals has been provided in connection with the laboratory and its use, has been extended to the students of the high schools in the vicinity. James H. Hill, of the Alberhill Co., in announcing the broad policy of the company regarding the laboratory declared that his concern the laboratory would "serve as an incubator" to bring parts of the clay industry to the district.

#### SAFETY SLOGANS.

Let us work earnestly and persistently for greater safety in industry and in every day life. At the same time let us refrain from overdoing this idea and carrying it to that extreme which will bring the customary reaction. There have been so many safety slogans that now some are saying things like "That if Columbus had played safety first he would never have discovered America." There is some virtue in being venturesome and taking risks. Also there is a difference between takings risks to gain an end and being careless in the safety of life and limb. So let us work earnestly for the greatest practical measure of safety. There is something that can be done at nearly every plant to improve safety conditions if we will but think of it and go at it right. What we really need is more thoughtful attention and more action and less spectacular chattering about safety.

#### THE FEDERAL COMMISSION AND TRADE ASSOCIATIONS.

The Federal Trade Commission is making some trouble for the trade associations these days, and there is being raised an interesting question of to what extent some trade associations are doing things they ought not to do, and to what extent the Federal Trade Commission is doing harm instead of doing good. It is time too for us to dig into these questions and find out what is what.

One original conception when the Federal Trade Commission was created was that it would advise business men through their associations as to what constituted restraint of trade and illegal activities, and what not. But the power to do this was struck out of the law creating the commission. Now we have reached the point where it is evident we should have this power given the Commission, and along with it the Commission should manifest a spirit of co-operation rather than antagonism. Otherwise there is a question of the real usefulness of the Commission.

Trade associations are valuable things, and while some of them in their enthusiasm may undertake the following of ideas and practices not wholly fair and legal, what we need is not a fight on, or a prosecution of trade associations, but some constructive effort on the part of the government to counsel and guide association officials that they may both obey the law and usefully serve their members.

One trouble with a lot of our would-be reformers is that they are reformers for revenue only.



## WITH THE PADUCAH BRICKMAKERS.

WHILE THE MAKING of brick is one of the oldest callings known to man, and while there are many familiar characteristics that are common to most all plants, there are also in this day many interesting individual features peculiar to different plants and different localities. One is reminded of this in visiting the brick plants of Paducah, Kentucky, because they furnish their share of interesting peculiarities and unusual features.

As a starting point to a descriptive discourse about brick plants and brickmaking in Paducah, it may be said that this is a soft mud center where brick are made with a soft mud process in sanded molds. But there is a distinguishing good feature even here. The sand available for molds is a fine silt-like sand which leaves the brick with a pleasing soft finish peculiar to the use of finely pulverized sand.

## The Paducah Brick &amp; Tile Co. Plant.

There are two brick plants in Paducah, that of the Paducah Brick & Tile Co., and that of the Hill & Karnes Brick Co., and in these as in the brick business as a whole, we find many characteristics that are similar, and there are distinguished peculiarities that make an interesting study.

The older plant is that of the Paducah Brick & Tile Co., of which James Murray is secretary-treasurer and general manager. This plant was established in 1893 and is equipped to manufacture brick, drain tile and hollow building tile. The present equipment consists of an Arnold-Creager soft mud machine for making brick and an American tile machine for making drain tile and hollow building tile. A feature of the power plant is an oldtime Sinker-Davis engine, 16x24, which has been giving service for seventy-five years and looks like it is good for seventy-five years more.

The kiln equipment consist of two rectangular up-draft kilns with a capacity of 350,000 brick each, one up-draft rectangular kiln with a capacity of 500,000, and one round down-draft kiln 27 feet in diameter on the inside. There is yard space and rack drying facilities for 170,000.

The burning time required is from seven to eight days, and the fuel used is hardwood for water smoking—west Kentucky coal for burning. The water smoking and heating up takes from four to five days, then the burning continues strenuously until the settling shows it has become thorough, after which the kilns are cooled off and are ready for opening.

## A Clay that Burns Well.

Here in the burning we encountered one of the peculiarities of the Paducah brick work. There is apparently no danger of injury from temperature and no special need for measuring and regulating. The clay is of such a nature that it behaves well in the burning process without any nursing, and it takes high heat without damage, consequently after they have driven out the moisture and start the firing it is just a matter of keeping the fires burning and seeing that the heat is reaching to all parts of the kiln, and just keeping up the good work until the settling shows thorough burning. The settling in an ordinary up-draft kiln of the type used here runs from ten to twelve inches. The product is a hard standard red brick with a color and density reminding one somewhat of a standard shale brick.

One feature of the work here is in the feeling among the brick men that they make a good showing in fuel economy notwithstanding the fact that they do not resort to special equipment or to temperature regulation and the other fine points in burning and fuel economy. Mr. Murray's figures on this point are that the average burning of a kiln of 350,000 brick consumes about 110 tons of coal, and forty cords of wood. You can figure this out for yourself and see whether

## SNAP SHOTS OF PADUCAH,



Paducah Brick &amp; Tile Co.'s Clay Bank.



Incline Leading to Clay Shed.



A Clay Pit That Looks Like a Shale Bank.



## KY., BRICK AND TILE PLANTS.



Opening Up a Good Kiln of Brick.



Clay Bank of the Hill & Karnes Brick Co.



Frank P. Hill Taking Observations.

or not it shows fuel economy as compared to what you are doing in your own plant. It is fairly characteristic of the fuel requirements in all of Paducah brick burning. The cord wood is still used for water smoking because it is available at prices that are perhaps favorable in comparison with smokeless fuel or other fuel suitable. In fact the plants there express satisfaction with the use of cord wood for smoking off and heating up and it is still available at fair prices and in sufficient quantities to meet their needs.

### An Interesting Clay Pit.

One of the interesting peculiarities of the Paducah Brick & Tile Co. plant is found out in their clay pit. They have a clay pit that both pictorially and when viewed from a distance with the eye, bears resemblance to a shale bank. And perhaps it is a shale-like material which has either remained soft or decayed and broken down into a soft clayey condition. Anyway it reminds one both in general appearance and in the product it turns out of a soft blue shale, yet it furnishes an advantage in that it is a soft, clean, easily-worked clay, ranging in color from bluish to a soft yellow. The opening at present shows a bank something like thirty feet high and tests show that it extends down thirty or forty feet lower, and that the greater depth shows more of the shale-like qualities, furnishing a good and practically inexhaustible supply of material for drain tile and hollow building tile as well as for a splendid hard red brick.

The brick constitutes the principle product manufactured but they are prepared to turn out both drain tile and hollow building tile, and the office itself furnishes interesting evidence of the qualities of hollow building tile made heretofore. The office of the plant is built of hollow tile, making its own face, and another interesting feature of the office is in a rustic retaining wall which runs along the front. There is also a chicken house and some other buildings furnishing evidence of the adaptability of this tile to building purposes, and the results are so satisfactory it leaves one with the impression that it should be featured and pushed more enthusiastically.

### The Hill & Karnes Brick Plant.

The main peculiarity of the plant and layout of the Hill & Karnes Brick Co., in Paducah, is found in the clay pit. Here, too, is the origin of some interesting distinct characteristics in their product which consists altogether of soft mud sand molded brick.

### A Pleasant Freak of Nature.

They have forty acres of sedimentary clay deposit which though it has some of the usual characteristics of clay openings in the western Kentucky territory, has some peculiarities. It is overflow territory and the indications are that the top layer, ranging in thickness from two to three feet is made up of sand, loam and other matter carried by overflow and deposited on the early bedding in later years. Even the earlier bedding shows evidence of overflow and some slight intermingling of sand, but deeper down into it it takes on the usual characteristics of a bluish clay. The first impression one gets of it all is disappointing. The first natural impression is that it is a characteristic clay of that section with considerable impurities intermixed with it. The outcome, however, is one of those freaks of nature which are encountered now and then in the rounds. It produces a brick of unusual color which has more in the way of architectural beauty features than they seem to have made of it yet.

Looking at a finished kiln of brick the first impression is of the usual standard red, but where the burning has been thorough the brick takes on a bluish tint combined with a peculiar fine texture resulting from the sand used in mold-



ing that begets enthusiasm over its possibilities in face work. Moreover this enthusiasm is strengthened after examining the brick closely and breaking some of them open. It burns hard through and through and the texture and color runs so evenly through the brick as to give one the feeling that it is an ideal clay mixture, both for color effect and for burning.

There are some variations in color from a soft red, through a gradually increasing blue shade to a dark chocolate effect in those which have been subjected to unusual temperature. And there is practically no bulging, blistering or checking, and very little warping or distortion of shapes through piling and burning. The brick is solid and firm and holds its shape unusually well, even in the arches, which is one of the pleasing characteristics of most of the clay found in the Paducah territory.

#### A Fine Mold Sand.

A full understanding of the peculiar features here involves an explanation of how they get the sand for molding and the effect it has on the face appearance of brick. Their clay pit overflows during the high water times of the Ohio River near which they are located. This overflow interferes with their operations some in the winter and spring, but it repays them for it. It carries over into their pits and



A Section of the Kilns, Hill & Karnes Brick Co.

there hangs in the willow growth here and there a fine silty sand which they harvest after the water has receded, dry it and use it for molding sand. The sand is what is sometimes described as quicksand, and is distinguished from ordinary river sand in that it is of a much finer grain than that usually harvested from the river. The comparison is about the same as comparing powdered sugar to granulated sugar, and the result is it gives a fine soft appearance to the face of the brick. This together with the blue tint in color make a combination that has more face and architectural possibilities than are usually found in a soft mud brick. This fact is emphasized when an examination of the brick through breaking shows its solid and thorough burning nature. The writer is willing to venture the prediction, too, that if some Chicago architect could get hold of a pile of that brick, there would be another architectural featuring in the Chicago face brick trade.

The Hill & Karnes Brick Co. plant and equipment consists of forty acres of clay, which they are working from the surface down to a depth varying from ten to eighteen feet, and, as stated above, there is a top layer of this clay, which when properly intermixed with the other produces a brick with an interesting blue cast.

The plant equipment consists of a sixty horse power boiler,

a fifty horse power engine, disintegrator and a Potts soft mud machine with a capacity of 40,000 brick a day. They have drying racks for about 225,000 brick, and an equipment of three up-draft rectangular kilns with a capacity of 400,000 each. The brick are usually set forty-two high in the kiln, water smoked four to four and a half days, using wood for water smoking, and then coal for burning, the total period requiring from seven to eight days. They judge the burning and its progress by the settling, which in their kilns when set forty-two high they figure will range ten to twelve inches. After they judge the burning as being sufficient, the kilns are sealed up and allowed to stand about four days to cool down.

#### Where Even the Arch Brick Burn Good.

In the way of fuel requirements they figure that to burn a kiln of 400,000 brick it requires thirty-five cords of wood and 120 tons of coal. The percentage of culls is small and there is seldom any bad effect shown from burning. The only ones found were checks due to letting in cold air in efforts to drive the heat from one side of the kiln to another. Even



Where the "Reds" have a "Blue Flavor."

brick examined in the arches after burning showed practically no damage from fire, and they say they have no trouble whatever from over burning, and no special need for temperature control. After they get through their smoking period, they just simply burn hard until the settling indicates a thorough burning, after which they close up and cool off.

The owners and active managers of the Hill & Karnes Brick Co. are Frank P. Hill and Earnest Karnes. They began operations in 1904 and burned their first brick in 1905. They figure an annual production of approximately four million brick, their greatest record perhaps being four and a half million in one season. They do not operate in the late winter and spring months because the clay pits overflow at that time, and it is the slow seasons in building operations anyway. They can easily provide themselves with enough stock to carry through this period.

Those efforts to Russianize our railroads should be changed into efforts at rushing some railway work.



## PADUCAH GROUP MEETING

A GROUP MEETING of the Kentucky Clay Products Association was called at the Palmer House, Paducah, Ky., July 13th, but owing to the excessive heat the attendance was small and no formal meeting was held.

The Clark Brothers, Henry, Joe and R. L., came down from Owensboro, and C. F. Cato, of the Dawson Springs Brick Co., came bringing his little daughter with him. These together with the secretary, and with James Murray, of the Paducah Brick and Tile Co., and Frank P. Hill, of the Hill and Karnes Brick Co., Paducah, made up the party which took lunch together and informally discussed conditions in the clay-working industry.

The Paducah brick manufacturers say that while conditions looked dull and raggy they have really done fairly well so far as this season and the volume of brick used is about up to normal. They have plenty in stock to meet the demands, but have not at any time been heavily burdened with stock on hand. Brick prices in Paducah average about \$15.00 delivered, the prices ranging from \$13 to \$17 delivered, and from \$12 to \$16 at the kilns.

The drain tile business started nicely in the spring but slowed down as the summer advanced and now is rather slow with considerable stock on hand.

The Clark boys operate the Clark Manufacturing Co., and have two plants, one at Mosleyville, and one at Ashbysburg, Ky. They say that they had a very good business in May but during June business in drain tile slowed up. They are hopeful that it may pick up some in the fall. Meantime they are actively promoting their hollow building tile which is made 4x8x12, making its own wall and face. They have put this into some splendid structures in their community during the past year or two and are looking hopefully to making it a strong feature in the future.

Things look quite interesting around Dawson Springs now because contracts have been let recently for half million dollars' worth of new buildings, and while these are mainly of hollow tile, they should include enough in the way of brick to keep the local brick plant hustling.

The Kentucky Clay Products Association talked some of having a meeting in September, but the sentiment in the main seems more favorable toward waiting until January or February for the next meeting and making it an annual meeting at Louisville. Also some hope was expressed that perhaps the N. B. M. A. would also conclude to hold its annual meeting in Louisville and this could be made the date for the state meeting also.

The present officers and directors of the Clay Products Association are: F. C. Klutey, Henderson, president; A. H. Schneider, Nicholasville, vice-president; T. Bishop, Louisville, treasurer; J. Crow Taylor, Louisville, secretary. Directors—W. H. Hall, Maysville; H. C. Cramer, Lexington; G. R. Ermann, Calhoun; J. H. Clark, Owensboro; Geo. H. Dalton, Hopkinsville; H. C. Kley Meyer, Evansville, Ind.; J. T. Howington, Louisville; M. J. Bannon, Louisville; L. Ruby, Providence.

## PROSPERITY SCHEMES

One good sign of the times is in the fact that people are now beginning to realize that schemes and theories are not real cures for depression and dull times. We all know well enough that following every period of depression there is a whole lot of quackery and many men advance many ideas as being the ones to follow to cure our troubles. Yet finally our troubles cure themselves when we all get back to work as we should. This is what will happen this time and we all know it too, when we stop to reason it out, but just the

same we will put in a period of time wrestling with problems and discussing remedies. Fortunately we seem to be passing from this period now and settling down to the kind of steady work that means better times all around.

## IMPROVING THE FOREMEN

The clayworking industry has been a sort of testing ground for foremanship because of the technical and exacting nature of the work. The industry therefore should find special interest in the fact that universities and colleges are now putting on special courses in foremanship with the two-fold purpose of giving technical training to foremen and of training teachers for teaching foremanship in connection with the vocational educational work of the country. One result of this effort should be a better understanding of the essential qualifications for foremanship.

## OPEN SHOP SENTIMENT

A recent survey made by the Philadelphia Public Ledger shows that the sentiment in favor of the open shop is growing both in breadth and strength. This was brought home forcibly to the publishers of newspapers and periodicals as the result of the recent printers' strike and it is also being brought home to the general public in such a manner that union advocates of closed shops are now without sympathy from the public.

## CLAY TRADE NOTES.

The city of Corning, N. Y., recently contracted with the Corning Brick Terra Cotta and Tile Company for a full supply of brick for the street paving of that city for the current year. This is a good example for many cities to follow and so insures the success of their home industries.

A local trust company has asked for a receiver for the Terre Haute Vitriified Brick Company. This company was one of the first concerns in that territory to make paving brick and it is to be sincerely hoped that the difficulty which now besets the company may soon be straightened out.

The Perfect Brick & Hollow Tile Company, New York, a new company, has been formed with a capital stock of \$3,200,000.00, for the manufacture of burnt clay products for fire-proofing purposes. The incorporators are F. G. Stoeher, R. Taustine and Thomas G. Chamberlain, of 611 Broadway, New York City. The Capital Trust Company, of Dover, Delaware, is the representative.

The plant of the Fulton (Mo.) Fire Brick Company has been reopened after being closed down for a month because of a shortage of orders. It is announced that the plant would be in operation at least a month and that it is possible that operations would continue for an indefinite period if orders continue to come in. The biggest part of the plant's production consists of fire brick linings for locomotives. Orders for these goods have been received right along but they were filled from stock that had accumulated after the men were kept at work in the hope that business would become normal. Finally the stock became so large that the shutdown was inevitable. This stock now has been reduced to a point where it has become necessary to replenish it. The company also is putting out zone linings for cement plants in the western part of the United States and orders for these are being filled on a small scale. The plant has never shut down in its shipping department and even while the factory was closed was shipping from 50 to 60 carloads of finished product a month.



## RECENT PATENTS

### IN THE CLAYWORKING INDUSTRY.

[Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering, give patent number only.]

**No. 1,385,451. Dry Kiln.** Joseph F. Hirt, Chicago, Ills., patentee.

Patent awarded for a kiln having a drying chamber and a heating chamber, means for circulating air through said chambers, means whereby fresh air is admitted to the circulating air at a point where it will pass through the heating chamber before entering the kiln chamber thereby thoroughly mixing and heating the additional fresh air with the recirculating air, before entering the drying chamber; means for supplying humidity to the air before it enters the drying chamber and means for varying the amount of humidity supplied to various portions of the kiln.

**No. 1,380,700. Refractory Material and Process of Making Same.** Charles H. Breerwood, Philadelphia, Pa., patentee.

A process of making refractory substances adapted for linings or walls of furnaces, crucibles, etc., which consists in introducing material adapted to form a sinter in a finely divided state into a furnace, mixing with it small pieces of material to which the finely divided substance is adapted to adhere in its passage through the furnace to form balls, and subjecting it in such form to such heat and for such a length of time as to make the substance refractory.

**No. 1,385,867. Brick Carrier.** Harry E. Fuller, Newhall, Iowa, patentee.

This patent is awarded for a brick carrier comprising a pair of brick-engaging members, one of the members being pivoted relative to the other, said last brick engaging member being capable of slight pivotal movement on a vertical axis, a handle arranged above and between said members and mounted on one of the members, a latch device mounted on said last member adapted to engage one end of the handle for locking the brick-engaging members against said movement.

**No. 1,385,961. Building Brick.** James P. Williams, St. Louis, Mo., patentee.

A building brick comprising side load-sustaining members, hollow throughout their length to provide longitudinal air cells; a central load-sustaining member of approximately the same dimensions as the side members and also provided with a longitudinally-extending air cell; there being at least three of such air cells in the brick; and solid webs connecting the central load-sustaining member with each of the side members and extending in horizontal planes from the central member approximately midway of its top and bottom portions; the upper and lower faces of each of the side members being in the same plane, the side members being in balanced relation to the central member.

**No. 1,386,012. Support for Kilns.** Paul A. Meehan, New Castle, Pa., patentee.

As a new article of manufacture, a member for supporting ware subjected to heat, said member having one side flattened and its opposite side spherical.

**No. 1,380,701. Process for Making Dolomite Bricks.** Charles H. Breerwood, Philadelphia, Pa., patentee.

Patent for a process for making dolomite bricks which consists in grinding dolomite containing a small amount of iron exceedingly fine, burning the mixture at a sufficiently

high temperature to amalgamate or vitrify it, regrinding the burnt mixture exceedingly fine, compressing it under great pressure into the desired shape and burning it at a temperature sufficiently high to amalgamate the brick.

**No. 1,387,809. Building Tile.** Reuben G. Simons, Los Angeles, Cal., patentee.

A building tile including parallel side walls, parallel end walls, a brace wall parallel to the end walls and disposed midway there between, two diagonal walls extending respectively from the corners formed by one side wall and said brace wall, and intermediate brace walls interposed between the end walls and the middle brace wall.

**No. 1,380,776. Apparatus for Handling Brick.** Ralph B. Cobb, River Forest, Ills., patentee.

Patent for a brick-handling apparatus comprising a frame having a plurality of parallel arms projecting therefrom and adapted to be introduced into the spaces between parallel rows of bricks, and clamping devices carried by said arms and arranged to be directly actuated to operatively engage the bricks of such rows by the weight of bricks superimposed thereon.

**No. 1,387,861. Method of and Apparatus for Making Face Brick.** James H. Mitchell, Danville, Ills., patentee.

This patent is for a method of making ornamented bricks which consists in moving a bar of plastic clay in surface contact with a plurality of successive rolls of different diameters, each roll adding a portion of the complete design to the clay.

**No. 1,385,986. Burner for Tunnel Kilns.** Philip D. Dressler, Zanesville, Ohio, patentee.

In a continuous tunnel kiln, the combination with an elongated kiln chamber, of an elongated combustion chamber therein formed with an aperture in its bottom wall, a masonry bench supporting said combustion chamber and formed with air and gas supply channels which open through the top surface of the bench into the aperture.

**No. 1,386,013. Drying Kiln Car.** Paul A. Meehan, New Castle, Pa., patentee.

Patent for a car for the purpose specified having a work-supporting platform formed by hollow pressed metal bolsters, each bolster having its upper surface inclined downwardly at a slight angle from its outer end forward its center.

**No. 1,386,116. Kiln.** Harford P. Jenks, Vigo, Ohio, patentee.

A kiln provided with a perforated floor, a checker-work heat reservoir located below said floor and adapted to receive the hot gases passing through the perforations of the floor, a down-take located at the edge of the reservoir and forming an outlet therefor, and a flue connected with the lower portion of the down-take and having a perforated upper wall extending along the lower portion of the heat reservoir.

**No. 1,386,404. Machine for Making Hollow Bricks.** Bror O. W. Hesselman and Oskar G. M. Mattsen, Stockholm, Sweden, patentees.

In a machine for molding brick, the combination of a mold, a support, means for moving the mold into operative position at one side of the support and into inoperative position away from the support, means for applying pressure to the material in the mold and means for automatically relieving the pressure.

**No. 1,386,530. Brick Kiln Construction.** James T. Pokorney, Paris, Texas, patentee.

In a brick manufacturing plant, a fire chamber, drying and firing chambers arranged in superposed relation above the fire chamber having openings therein to admit the heated



air circulating about the exterior of the fire chamber, and fuel conducting pipes connecting the firing room with the fire chamber.

No. 1,386,314. Building Brick. Albert H. Carrier, Asheville, N. C., patentee.

### BRICK EXPORTS MAKE BIG INCREASES.

**N**OTWITHSTANDING THE slump in exports of practically all lines of trade the sales of brick and clay tile abroad are showing substantial increases. A large proportion of these exports are going to France and Belgium, to help in the rebuilding of the devastated areas, although Canada is taking large quantities, the latter shipments being mainly of building brick.

In view of the fast-increasing sales of building brick to European countries, mainly to Belgium and France, the writer has been at some pains to investigate the possibilities in these markets, and finds that the potential demand in both of these countries for American brick promises to reach big figures in the near future. Likewise, the sale of brickmaking machinery will be an important export item of the near future. This being the case, as the Department of Commerce points out, it will behoove our brick and tile manufacturers, as well as producers of brick machinery, who may be interested in foreign trade, to keep a close watch on these export fields as well as to enter upon an energetic cultivation of the markets.

Statistics now available at the Bureau of Foreign and Domestic Commerce for the seven months ended on July 31, 1921, show that in this period the United States exported building brick of a value of \$317,194, as against \$207,381 in the seven months ended on July 31, 1920, and \$86,382 in the seven months ended on July 31, 1919. Of fire brick the exports in the seven months ended on July 31, 1921, were \$1,750,000, and in the seven months ended July 31, 1920, they were \$1,899,798, while for the seven months ended July 31, 1919, the total was \$1,654,304. Clay tiles for the seven months ended July 31, this year, show \$522,142 exports, against \$506,290 in the corresponding seven months ended July 31, 1920.

An interesting report has just been prepared by the European division of the Bureau of Foreign and Domestic Commerce on the present status of the brick industry in England.

Following is the report, in part:

"The brickmaking industry is well established in Great Britain. It has passed through many difficulties in recent years, during which numerous failures were recorded. The causes given for the depression in the trade are overproduction and its corollary, reduction in prices. In August, 1917, a sort of Government control was assumed, which was followed shortly afterwards by a direct Government control. Under the terms of the new control prices were fixed on the basis of costings carried out by Government accountants, and these were agreed to by the manufacturers and associations. Control was removed early in 1919. Returns of the census of production in 1907 (the latest data available) place the output of bricks of brick earth or fire clay in the United Kingdom during that year at 4,759,864,000 bricks, valued at £6,329,000. The present position of the British brickmaking industry as regards not only the possibility of supplying the local demand but also of competing in the foreign field is amply demonstrated by the tables already given.

"There are many associations or combinations in the brickmaking trade. The two principal of these are the Pressed Brick Manufacturers' Association, which works at Fletton fields in the Peterborough district and whose capacity is estimated at 450,000,000 bricks per annum, and the Stock

Brickmakers' Association, working the Stock brick field in Kent and Essex and whose output varies from 250,000,000 to 300,000,000 per annum. There are many other smaller wholesale associations which were formed during the war for the purpose of collective dealing with the Government as regards costings and prices. Roughly speaking, the purpose of these wholesale associations are (1) to regulate selling prices with a view to maintaining them at a profitable level; (2) to regulate conditions of labor; and (3) to protect the trade in their own particular locality."

The Bureau of Foreign and Domestic Commerce, Washington, reports having received a communication from a government buying office in Norway stating that this concern desires to get into direct touch with United States manufacturers of brick and other building materials. Price quotations should be given c. i. f. (cost, insurance and freight) one of the Norwegian ports. Payment will be made through either a New York or a Norway bank. All details and information in reference to the matter will be furnished our manufacturers who may be interested if they will address Bureau of Foreign and Domestic Commerce, mentioning inquiry number 35,366.

ALTHOMAR.

### A SHORT PREACHMENT ON FUEL ECONOMY.

Writing for the National Engineer, T. A. Marsh, of the Green Engineering Co., East Chicago, Ind., developed an interesting and valuable sermon on power plant economy around the two short words clean and tight.

It ought to be easy enough for any wide-awake engineer to understand the points about the plant where these two words apply. Cleanliness has to do with fuel, with ash pits, furnaces, boilers, flues, stacks, water and so on. The tight part has to do with walls, stack, breeching, baffles, pipes and so on. After pointing out a number of these Mr. Marsh says:

"In addition to the items specifically mentioned there are many other little nooks and corners to look for the application of the words 'clean and tight.' In general the entire boiler room should be kept clean. Cleanliness in general has much to do with operating economy. Piles of rubbish in a boiler room almost invariably indicate a similar condition inside boilers and other parts of the system.

"If the operating engineer will consider every point throughout the entire path of the coal, the air, the water and the steam and apply the two questions, 'Is it Clean?' 'Is it Tight?' and not be satisfied until he can answer positively that power plant will show economy far above the average.

"It is not necessary in most stations to consider re-design of equipment. It is the function of expert furnace designers to decide whether furnaces should be changed, boilers raised, and other physical changes made to the plant.

"It is the function of the management to consider financial matters and determine whether new boilers, economizers, new stokers, or other new equipment should be installed.

"It is the function of the operating engineer to produce results with the existing plant and equipment. The engineer who has learned the meaning and application of these two words and can maintain his equipment 'clean' and 'tight' is the engineer who will make the record for high economy."

There recently passed from among us Franklin K. Lane, who distinguished himself as Secretary of the Interior prior to and during the war period. He was one of the big men in the cabinet, respected and admired by all who knew him and knew his work. He was one of the big men in the country who made a very pronounced success both in business and in governmental activities, in which it is said that he impoverished himself in the service of mankind. One thing he proved conclusively is, that a man can be a big success in this world without piling up a big sum of money.



Written for THE CLAY-WORKER.

### THE NEW YORK SITUATION.



SEEMS TO BE almost an established fact that there will be sufficient work throughout the autumn for both artisans and material dealers. The wage question seems to be settled for the time being, at least. A wet blanket has been thrown on the whole wage question by the insertion of a clause in most contracts, calling for an adjustment if they go either up or down. This in a way will eliminate the possibility of complications, should they arise, ever bearing very heavily upon construction costs. The investor is protected no matter which way the trend tends to move.

With all the protection to the investor, the question that is foremost in some minds, is "how long will wages stay down, should the activity in building become general?" At present there is an encouraging amount of business being taken in by firms engaged in construction work, provided they go out and fight for it. The day of just merely handing a contractor the plans and a signed contract is over. To win in the field today, the contractor must put up some kind of a fight and the spoils will go to the fighter.

Common brick is variously quoted throughout this section. Most dealers are asking \$17.50 F. O. B. job. This price seems to hold in most parts of the city. Some dealers quote at the docks, and this price stays very close to the \$15.00 mark. Face brick is experiencing quite a little activity of late, due to the large amount of apartment house construction in the Greater City itself. The prices asked vary with the kind, quantity and length of haul. Buffs seem to be the color wanted with grays giving them a very hard run for first place. Rough texture is the variety that is being called for and in many instances nothing else will do. The quotations generally stay in the neighborhood of \$45.00 to \$55.00, varying with the color wanted.

Hollow tile and partition tile are quoted at about the same as during the last month. Some manufacturers cannot quote, due to low stock or no stock at all. The prices asked vary through a wide range. Four-inch tile bring around 16 cents, while 6-inch will move at 26 to 28 cents per square foot. Kind, quantity and haul may change these figures one cent one way or the other, but in the main, the figures given are very close to the ones generally asked.

The number of cargoes arriving at the docks in the Greater City do not vary to any appreciable extent, to those arriving at any other like period. The average number of barges arriving stays very close to thirty-three or thirty-four. They arrive and are almost at once absorbed. The larger part remains in the Greater City itself. Some cargoes reach the sister boroughs, but that is their outlook. The Bronx is absorbing brick at a very rapid rate, there being an unusual amount of construction activity taking place there at present. Queens and Brooklyn are doing their share to boost the total. Brooklyn in particular is doing a great deal, more in the housing line probably than any other one borough, with the possible exception of the Bronx.

The Terra Cotta Art Company, New York, N. Y., was recently organized with \$15,000.00 capital stock. It proposes to manufacture ornamental terra cotta products. The incorporators are E. F. Mattutat, A. Whitehead and M. Harris, 20 Broad Street, New York City.

Edwin B. Gardner, of the Frederick Brick Company, located at Kingston, N. Y., recently passed away at his home in Kingston. Mr. Gardner was well known and popular in the industrial circles in the Hudson Valley. He was a member of the Kingston Lodge No. 10, F. and A. M. He is survived by a widow.

As the plants and properties lay close together, it is rumored the Duffney Brick Co., of Schenectady, N. Y., will take over the interest of the New England Brick Company.

A notice has been filed of increase of capital stock from \$40,000.00 to \$100,000.00 by the Champlain Brick Company, of Mechanicsville, N. Y. This increase has been made for the purpose of making extensive expansions to the business.

A department in the works of the Union Mining Company, at Mount Savage, Md., has been closed, as the outcome of a demand for increased wages by the operatives. This company manufactures a good grade of fire brick. It is the plan of the officials of the company to remain closed until the men will return at their old wage scale.

BUXTON.

### NEW YORK TO PITTSBURGH BY AUTO.

The Eastern Paving Brick Manufacturers' Association has a clever advertising man and humorist on its staff as is evidenced by the following letter recently sent to the members, in place of the usual bulletin, with apologies to Ring Lardner, stating it was received by the Association at its office in the Lincoln Building, Philadelphia, Pa.

August 30, 1921.

Dear Perk:

When i left little ole New York to take a trip in my lizzie to see the Grand and Glorious Country of the U. S. A. i says to Mary: "i wish we had a big car becauz when we leave the old town behind we will leave the good roads behind too and a big car would take the jumps better than the lizzie." But i see how i don't know what i was talking about becauz i seen more good streets out of N. Y. then in it.

We went first 2 Phily and on account of its being half dead we didn't stop there long as we was afraid we might end up in a cemtery too soon. So we kep rite on & soon was in the big mountains goin' to Pittsburgh out in the western part of Pa.

Of course we got all kinds of roads on the way, asbestos, which must cost an owful lot of money after you furst buy it cauz they must have been a gang each 100 yds. putting some more of it in the holes. Some of them looked like the pants i used to wear when i was a kid. Mostly patches. Then we got lots of concrete roads. They was all covered with crooked lines in black, across the road, up & down the road & all over the road. Maybe they done it to make it look pretty but believe you me, it ain't my idee of anything butiful but maybe i ain't no judge.

Then we come to some roads made of petrified brick and let me tell you, no kidden either, they was the best roads i ever seen. Was they smooth? say, Perk, i just felt like i was floating along in a Rolls Royce. i didn't have to watch for no holes cauz they wasn't any.

And say Perk let me tell you something funny. We was in the big hills jest this side of Pittsburgh when it started in to rain and did it rain? i never seen so much rain all at onct. An here we was on top of a hill & the nearest town down in the vally and me with no chains in the car so we just stood ther in the rain. i didn't dare move as i was afraid of skidding. An that road was so crooked & steep and me being right shy on skidding on account of—well you no that time you was with me when we skidded on 5th ave. in the rain & was most run down by a bus. But soon a fellow come along in a lizzie and asks me was i in trouble, i sez, "Oh no, unless you call it trouble to be stuck up here in the rain." And i sez i was afraid of skidding down that mountain road and never seen little ole N. Y. again. But he says, "You wont skid, that road is brick, watch me." & off he went again round curves & it just seemed as if he had something on his tires. So i tried it to, slow at first but soon i was going just as fast as if it had been dry & did i skid? i did not.

So believe you me, when i go back i sure am going to see



the guy that puts down the streets and ask him why he doesn't give us more of them brick streets. I kind of laughed when I first seen them as I thought they were pretty slow out here but I guess I done know everything yet.

Well Perk I must close now as we got to get some sleep for our trip tomorrow into Ohio and they tell me they have lots of brick roads there so I aim to have a good rest and not worry.

Yours,

GRIFF.

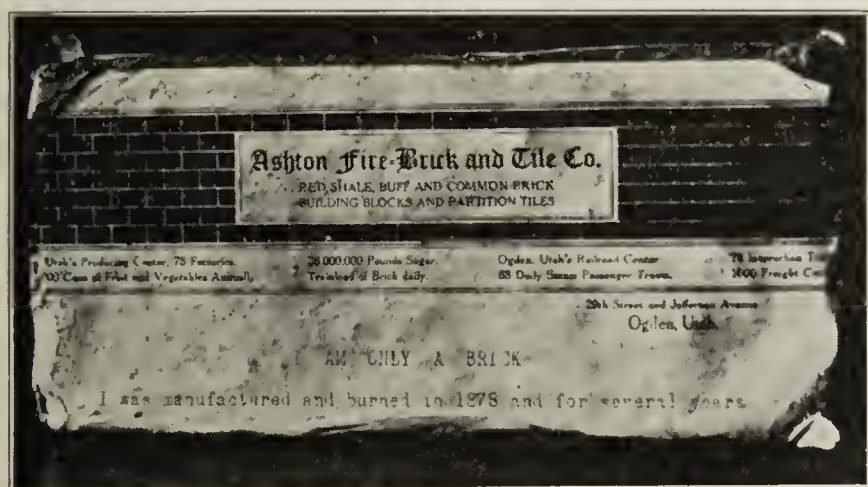
## BRICK BY PARCEL POST.

UNDER THE ABOVE caption it was suggested in the July issue of The Clay-Worker that members of the N. B. M. A. send to President Dunwody a brick by parcel post to be used in the erection of his new home at Macon, Ga. In response a large number of bricks have been received from various quarters. Among the number was one from the Ashton Fire Brick & Tile Co., of Ogden, Utah, and with it an interesting letter giving a history of the particular brick which is of unusual interest.

Brick with a Sad Past is Given to Dunwody to Put in New Home.

I am only a brick.

I was manufactured and burned in 1878 and for several years occupied a place in a cottage, and was continually ad-



The Brick with the Sad Past Bore the Above Label.

mired, for there were several frame houses around us. The cottage having been torn down to make way for improvements. I, with thousands of others, was used in building an up-draft kiln. This kiln, becoming obsolete, was torn down and I was given a place in an up-to-date down draft kiln.

Yesterday this kiln was torn down to make way for the latest tunnel kiln.

I have been used, abused, run over, laid out nights and days in storms and in sunshine, thrown at innumerable objects, kicked, cussed and reviled. I have been elevated several stories by a guy called Mike and dropped at a dog by another called Pat. I have been covered by mud, mortar and concrete, which has been cleaned from me and thrown away as waste material and now I am selected to be thrown a few thousand miles across the country at President Dunwody, where I feel certain that my usefulness is just about to begin.

For, barring a few lost corners, I am just as good as ever, and shall be dug up in a few thousand years and used again, for I am for eternity.

I am a brick.

ASHTON FIRE BRICK & TILE CO.,

RICHARD LEEK, Manager.

No man is better than he thinks, so think well.

## NOTES OF CERAMIC INVESTIGATIONS BY THE UNITED STATES BUREAU OF MINES.

A NEW CERAMIC laboratory, in which investigative work regarding the clays of the Northwest will be conducted, is to be installed at the Northwest Experiment Station of the United States Bureau of Mines on the campus of the University of Washington at Seattle.

The laboratory work in connection with a general study of the clays of Washington has been completed, and a bulletin on the subject of Washington clays is now in course of preparation.

At the Northwest Experiment Station an attempt is being made to remove iron and silicon from kaolin to produce either millimanite or the oxide of aluminum. Clay was melted in an arcing furnace in presence of carbon; some silicon and iron were volatilized and some reduced to metal. The products contained less iron oxide and silica and more alumina than previously, but not in sufficient amounts to be sillimanite. The refractoriness of these products is to be determined by the ordinary tests.

A co-operative agreement has been effected between the United States Bureau of Mines and the Central of Georgia Railway for an investigation by the Ceramic Experiment Station, Columbus, Ohio, of the white clay and bauxites through central Georgia along the railroad right-of-way. R. B. Gilmore, formerly ceramic chemist with the Vesuvius Crucible Co., Swissvale, Pa., and H. M. Kraner, formerly ceramic assistant of the Bureau of Mines, have been assigned to this work. Preliminary tests on the effects of low calcination temperatures on the colloidal content of Georgia white clays have been made. By calcining Georgia clay to from 500 to 600°C. the adsorptive properties were reduced to those of the English china clay, without materially reducing its plasticity.

A microscopic examination of the mineral constituents of kaolins is being conducted at the Ceramic Experiment Station at Columbus.

## A BRICK COMMISSION SUGGESTION.

In the newspaper reports of a talk made by Colonel John B. Rose, recently at a New York Building Congress, he is quoted as saying that there is need to form a commission by Secretary Hoover's Department for the investigation of the needs of the brickmaking industry with a view to coordination so as to eliminate waste and make better chances for profit and steady employment.

This suggestion probably was an outgrowth of the fact that several special divisions have been set up in the Department of Commerce, among them a lumber division and machinery division, and several others, a dozen or more in fact.

These special divisions, however, were created under an act of Congress which has to do with developing our export trade and they are to devote their activities to co-operating with industries which are seeking to develop export markets. We may reason, therefore, that since exporting is not a big factor in the clayworking industry it will not get a special division of this kind. What Colonel Rose probably had in mind, and what will be splendid if it can be realized, is the idea of a special division in the Department of Commerce for co-operative work with the clayworking industry to the end that we may improve conditions and get a better hook up between this industry, the architects and the building trades in the country.

The recent rainy weather should help make it easier to sell drain tile this fall and encourage more tile drainage on the farm.



## HEAVY CLAY PRODUCTS RESEARCH

By Maurice B. Greenough, Cleveland, Ohio.

Secretary National Paving Brick Manufacturers' Association,  
and Secretary-Treasurer Joint Clay Products Research  
Committee.\*

THE FEDERAL GOVERNMENT through its scientific Bureau of Mines and Standards, the scientists of the clay products industry through the American Ceramic Society and the manufacturers of face brick, hollow building tile, common and vitrified paving brick through a joint committee of their respective national associations, all have joined hands to seek by research to solve vital problems in heavy clay products production.

Step by step, in orderly progression, this joint clay products research program has been developed from an idea to an actuality. The scope of the studies has been defined; the function of each of the several participating groups have been assigned; the financial support of the work has been assured; the administrative methods involved in the co-operation have been arranged. Today the program is in operation. And this occasion is a welcome opportunity to discuss publicly the nature of the arrangements effected. We believe that our experience will not prove without value to other industries as much in need of the benefits of the right kind of research as our own.

By undertaking this program, the heavy clay products industry is aligning itself with the progressive industries of the nation. It is almost trite to recall that there is no such condition status in industry as standing still. Either economic progress is made in production and distribution or loss of economic prestige is suffered.

As society increases in complexity there is bound to follow a growing sense of proprietorship on the part of the public over supplies of raw material. As time goes on the industry which is prodigal of our natural resources and which is not continually seeking and actually finding ways to improve the character of its product and to increase the efficiency of its production, will encounter two barriers to its economic progress—the second somewhat dependent upon the first—but either one of which will suffice to relegate such industries to the back-ground. These obstacles are:

First. The rising of production and distribution costs to so high a point that price becomes out-of-line with the service rendered by the product.

Second. Public prejudice toward consumers of raw materials who are not making an equitable return to the public in the service-value of goods manufactured, for the raw materials consumed.

Corollary to the choice of a future in industry two courses seem therefore to be open to manufacturers: Either to drift along from year to year, allowing production and distribution costs to be determined by circumstances, or to embark deliberately upon a systematic and scientific study of the manufacturers of products with a view to controlling a future economic course of industries by the force of directed intelligence.

### II.

An industry drifting is at the mercy of economic conditions and its competitors who refuse to drift. An industry consciously bringing to its aid the chart and compass of practical science, backed by the determination to face facts and to

abandon all prejudice, is on the road to entrenchment in a strong economic position.

Industrial research is the channel through which the necessary information can be had if it can be obtained at all. Naturally the mere existence of a research program does not guarantee success. Research may be capitalized or abused. That it has more than once been mishandled may account for some prejudice against it; may account for the theoretical and visionary atmosphere thrown about it. But even this should be no warrant for refusing to grant to sound research its true place as a vital and energizing force in modern industry.

There are two distinct divisions of industrial research operations:

First. Research which has for its prime object the determination of ways by which existing productive facilities and processes may be rendered more fruitful. I shall call this kind of research "scientific refinement."

Second. Research which is intended to point the way to future improvements and developments in productive facilities and processes. I shall name this division of research "scientific prospecting."

We may be confident that the success or failure of any industrial research program will be measured by how well these major distinctions are kept in mind in making and administering research plans. To the industry which is embarking, or is considering embarking upon a research program, the first division has the quickest and strongest appeal.

### III.

It is natural that this should be true. Industrial plants represent capital investment. The officers of constituent companies occupy positions of trusteeship to themselves as proprietors or others who have instructed them with capital for the earning of income. There is, therefore, a natural attitude of conservatism which continually acts as a check upon the spending of money for those things which do not obviously increase the productive earnings of the company.

Today, however, few officers will decline to spend reasonable sums of money for research designed to make capital, already invested, more productive, provided they are convinced that the proposed research is thoroughly sound and practical. In the natural order of things, research for refinement is first and there are few industries ready for scientific prospecting until the possibilities of the development of efficiency in existing plant and equipment are exhausted. The production of a few definite, tangible results whose application is useful and whose usefulness is apparent does more to invite the confidence of the average manufacturer in the value of applied science in industry than volumes of theoretical determinations quite sound from a scientific standpoint, but impractical of application.

It is but a step from scientific refinement to scientific prospecting if the refinement proves to be productive. But ignore the refinement and prospecting will be regarded as an illusive vision rather than a vital necessity.

The foregoing observations, although general, are nevertheless not unrelated to the problems before us in heavy clay products research. Here we have an industry whose origins, insofar as they are known to us, date back to the beginnings of recorded history. Gradually the processes of producing these important materials of construction have developed with the growth of scientific knowledge; but the development has been slow. Compared with many industries we have made little use of science; what scientific applications have been made have largely flowed from individual initiative rather than from any organized and concerted action, bent upon solving specified problems.

### IV.

Heavy clay products (or perhaps we might as accurately identify them under the name of the burned clay construction materials) are known as low grade materials; the value

\*Read on September 16th before the American Ceramic Society in session during the National Chemical Exposition, New York City.



of the material per unit of weight is low. The industry has been built upon:

- (1) Wide distribution of raw materials.
- (2) Low proportion of labor cost to total production cost.
- (3) Cheap fuel.
- (4) Low freight rates.

Under the foregoing conditions a great industry has been built up which has supplied construction materials of recognized merit for their respective uses, unequaled in service-value, and all at a price that has been consistently not in sufficient excess of that of substitute materials as to offer any insurmountable obstacles to the continued sale and distribution of the product.

Conceivably the heavy burned clay products industry closed one chapter of its existence with the late war and is now entering upon another phase, which will prove our undoing or upbuilding, depending upon how courageously we meet the new situation and adapt the industry to its requirements.

One alone of the four divisions of our economic foundation remains today substantially the same as its pre-war status. Clay, of one variety or another for our production, is still generally distributed throughout the country. The value of this material, as raw material, with a few notable exceptions, has not greatly increased since 1916. And such small increases as have taken place constitute but a small proportion of the total cost and can readily be absorbed.

The two chief items of heavy clay products production costs, as we all know, are fuel and labor, speaking in the sense of labor as the cost of workmen on the plants and not referring to the labor absorbed by and represented in the cost of fuel. Labor costs are higher now than in 1916. They are not as high as they have been, but it is doubtful if for many years labor costs will recede to pre-war levels. We may therefore look to increased labor costs unless one of two things happen:

First. Increased production without increase in number of men employed in relation to tonnage.

Second. Less men being required to produce the same or additional tonnage by virtue of developments in processes.

Without further discussing these propositions, let us turn to the fuel situation. Great quantities of it are needed in a year. In the production of paving brick, for example, 1.87 tons of coal are burned for power and burning for every 1,000 ten-pound pavers produced. Roughly, .4 of a ton of coal for one ton of output. Other heavy burned clay materials will vary from this figure, but the variation can be a wide one and we shall yet rank among the first half-dozen users of fuel in the country.

Were there no other impelling motive for endeavoring to reduce the amount of coal required to burn our product than the saving in fuel expense (the largest single item of production cost) then the fact that fuel now costs something like three to four times its pre-war level, the added necessity due to the obligation that rests upon all industry to be as sparing as possible in drafts upon our natural resources, would be ample justification for our purpose to find ways to economize in fuel consumption.

If we can find out how to burn equally or more acceptable ware, with less fuel, we shall have succeeded in solving a problem vital to the future economic stability of our industry and at the same time we shall have aligned ourselves with those who by practice rather than preachment, are most mindful of the best interests of the nation. The fact that we are attacking this problem places the industry in an enjoyable situation in the public mind.

In common with all American industries, the growth of the clay products industry has been built upon low freight rates.

With freight rates at their present high level we are shouldered with an additional bureau of distribution cost which cannot be considered otherwise than serious. It is earnestly to be hoped that some relief may be forthcoming and forthcoming soon.

But we have already pointed out that some costs, other than those of distribution, are high. And it so happens that we for ourselves have it in our power to find relief insofar as production costs are concerned. As between the alternative of awaiting the pleasure of the railroads to reduce freight rates on our material, or for the arrival of such general transportation conditions as will make possible a reduction in rates, there can be no doubt that we are doing the correct thing to solve for ourselves those problems whose removal can be effected by ourselves rather than to rest our future upon circumstances.

#### V.

Let us consider for a moment the scope of the joint clay products research program, and the role in which each participant is case. In this respect, our program differs materially from the general run of such efforts. In the first place the public is represented and has an interest exercised through the work that is being done in the Federal bureaus in Washington. Our program therefore demonstrates the principle of the buyers co-operating with the producer in the improvement of processes and the bringing about of more economical industrial operations. This is a practical manifestation of the public interest in the disposition of natural resources and the active representation of such public agencies as the Bureau of Mines and Standards can only be interpreted in a grateful spirit. Science is brought to our assistance through the agency of these bureaus and again through the American Ceramic Society, which in a sense is a contribution of the industry to itself. And finally the producers of the heavy clay products through their joint committee have provided a part of the funds and the administrative facilities to represent their share in the solution of a great problem.

It is difficult to conceive a more perfect alignment of forces. No group having a natural interest in heavy clay products is unrepresented, unless we except such producers of other heavy clay products as are already at work upon similar problems, or have not as yet seen fit to share with the now active producers a portion of this present burden. It is to be hoped that these other divisions of the industry may soon align themselves with the work in progress.

The operations of the program are beginning with studies of existing equipment. We are determined to find out how to use present kiln types with greater efficiency. We are bent upon gaining this goal as quickly as possible. And we have at the front always the consideration of practicality which will promote the every-day usefulness of our studies. The work has been discussed from every angle. The preliminary stages are passed. It is now a problem of hard work. The harder all of us work at the job, the quicker the results will be available.

#### BALTIMORE USES BRICK.

According to a report from Baltimore, permits were taken out in February for 202 brick homes, and the head of the department of buildings of Baltimore reports that the brick home spirit is growing. He thinks that the February report is only a starter and that many more will be built from month to month, the number growing as the movement gains momentum. Evidently the Baltimore people are determined to build against fire loss, and so use brick.





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

#### Finds The Clay-Worker Helpful.

Editor The Clay-Worker:

Please change my address from Seattle to Spokane, Wash., care of the Washington Brick, Lime and Sewer Pipe Co., where I am ceramic chemist. I find many helpful suggestions in The Clay-Worker, and don't want to miss a single copy.

Yours very truly,

ERNEST F. GOODNER.

#### An Optimistic Clayworker.

Dear Mr. Randall:

Your letter of the 30th at hand. In reply to your question as to the situation in our territory, there is no situation, merely a blank. We ourselves do not manufacture any brick at all, turning out drain tile and roofing tile exclusively. In our own lines business is practically at a standstill, although we are running about to capacity putting stock in the yards, still remaining a little bit optimistic that business will pick up in the future, but just when that future may be we, of course, are not in a position to state.

Yours very truly,

R. J. PERRY, Receiver,  
Woodland Clay Co.

#### A New Angle on Highway Improvements.

My dear Randall:—

I have been very busy since we last met. We have had a meeting in Cleveland of the Committee on Brick Specifications of the American Society for Municipal Improvements. This was the current committee who are devoting themselves to re-writing the specifications for brick to be reported to the annual meeting of that society which meets in Baltimore in October.

A few of us who are very much interested in the continuance of Federal Aid for highway improvement, recently met in Washington to persuade, if possible, some kind of compromise between the extreme classes who stand for the old method of distributing Federal Aid and the one that is proposed by Senator Townsend through his bill. You have doubtless noticed in the last few days that Senator Townsend will introduce into the Senate a compromise bill upon this question. This was what we were working for and we are hopeful that the program as now decided upon will result in Federal Aid legislation.

I note in quite a few papers published throughout Indiana that they are aiding in a propaganda against highway improvement, taking as their basis some of the misleading propaganda that has originated in Ohio. It was political balderdash pure and simple and to break down its influence in this state the Ohio Good Roads Federation sent out some facts in connection with a sort of questionnaire. One of the facts stated the sources that contribute to the payment of our half mill levy for roads in this state. It is as follows:

"The proportion of classes of property paying the one-half

mill state highway levy is as follows: a city and village real property, 39%; city personal property, 26.7%; rural real property, 20%; rural personal property, 143%."

It doubtless was a revelation to most people to note that city property pays 65% of the country road tax. Few roads are improved in Ohio that are not first petitioned for by the abutting property owners who are of course land owners or farmers. These petitioners agree to pay a certain per cent. according to the number of front feet abutting the property, generally 10% on either side. Now taking this fact to start with, if the farmers petition for the improvement of roads and agree to pay a bonus for their construction and this together with that fact that 85% of the replies to the question, "Do you favor a continuance of highway improvement at current prices?" makes me wonder if Indiana's highway improvement program is about to be put to sleep.

Yours very truly,

WILL P. BLAIR.

#### Starting Out Right.

Editor The Clay-Worker:

Enclosed please find money order for \$2.00 for which you will please send The Clay-Worker to the Kenyon Brick and Tile Co., for one year. Perhaps you will be interested to know that the Kenyon Brick and Tile Co. was organized August 10, with a capital stock of \$125,000, by Mr. A. W. Kenyon, David Oliver, W. D. Kenyon and Cody Fowler. The president of the company, Mr. A. W. Kenyon, has been manager of the American Brick and Tile Corporation for the past 8 years and has had many years' experience in the brick business in Oklahoma. Mr. David Oliver, vice-president of the company, is also a brickmaker of wide experience in the manufacture of clay products.

The site of the new company is the property adjoining the American Brick and Tile Co. on the west side, which contains practically an inexhaustible supply of shale.

The capital stock has been fully subscribed and plans are now being made for a very modern clay products plant, that will manufacture dry press and stiff mud common brick, rough texture and repress face brick, hollow building tile, hollow face tile and pottery.

Yours truly,

W. D. KENYON, Secretary,  
Oklahoma City. Kenyon Brick and Tile Co.

#### More About Continuous Tunnel Kilns.

Editor The Clay-Worker:—

Mr. James P. Williams, in his letter in the August Clay-Worker, assumes that "Modern Development of the Direct-Fired Type of the Railroad Tunnel Kiln" is in answer to or was inspired by an article in the May number, signed "Experience," and which he now informs us was written by himself. As there is no reference in Mr. Hartford's article to Mr. Williams and no indication that he had read the article signed "Experience," it is quite probable that Mr. Hartford may not make the answer that Mr. Williams invites. Therefore, lest such one-sided, dogmatic statements may be given undue weight and mislead some one into wrong opinions or unwise action, another view of the matter should be presented to your readers.

Mr. Hartford gives an interesting account of his observations of a certain form of tunnel kilns in the pottery industry, though it seems that his enthusiasm for the ideal may have led him to make an exaggerated and unverified statement of fuel saving. But he makes no statement, as Mr. Williams assumes, concerning the operation of the tunnel kiln in the burning of heavy products, like brick, from impure, unoxi-



dized, high-shrinkage clays, and hence may not feel called upon to state where he has seen what he does not say that he has seen. Mr. Williams, however, writes from the standpoint of a brickmaker and positively asserts that "it has been demonstrated beyond any reasonable doubt that the muffle-fired kiln is now successfully burning both common building tile, drain tile and common building brick." Therefore, we want to put to him the questions that he has unwarrantedly asked Mr. Hartford and ask him to state definitely where he has seen the muffle tunnel kiln, or any other tunnel kiln, in successful operation on common brick, face brick, hollow building tile or drain tile. No statements are desired of what others have told him nor of what he has seen in pictures that have been published by the promoters of such kilns. What we want is a full, detailed account of his own observations and investigations, such as he claims or intimates that he has made or such as would satisfy a seeker after truth from his native state or any other state. We ask this for the reason that a large number of brick manufacturers are watching experiments with the tunnel kiln with a great deal of interest and will go a long distance to see a successful solution of the problems that they have studied upon for many years. By "successful" we mean not the slow burning of a limited quantity of good brick, but the production on a commercial scale of brick at a lower cost than by the latest and most approved methods in other forms of continuous, regenerative kilns, or even in clamp kilns by the Chicago system.

Mr. Williams gives as a great advantage of the tunnel kiln that the brick can be transported direct from kiln to railroad cars or stock sheds without rehandling. Now, let him explain how he is going to move these heavy kiln cars to where their contents can be put into a railroad box car without rehandling or, if face brick, can be shaded and graded and placed in the proper stock piles without rehandling. One would think from his statements that the tunnel kiln car could be pushed along easily, even into a railroad car, whereas a kiln car large enough for burning brick can not be practically pushed by hand power at all and the only economical method of moving, even an empty car, is by some form of motor. In fact one great objection to the tunnel kiln in brick manufacture, even if it could be made practical for the burning, is that it makes modern systems of economical handling of brick impossible and thus eliminates one of the greatest labor-saving methods in recent practice and which is reducing the cost of brick very materially.

Those who attended the annual meeting of the C. B. M. A. at New York last February, remember Mr. Whitescarver's talk, giving an account of the failure of a tunnel kiln to burn common brick in his vicinity and his warning to his fellow brickmakers against making experiments such as had bankrupted his neighbor and against being persuaded that common brick can be burned in twenty-four hours. It will also be remembered that the representative of the muffle tunnel kiln, to which Mr. Williams refers, in starting to give a long talk about his kiln to overcome the effect of Mr. Whitescarver's statements, was halted by the question of a prominent brick manufacturer, "Can you point to a place where your kiln is successfully burning common brick?" After some hesitation, he admitted that he could not at that time and was then told that the convention did not care to hear him talk further. But now, after these few months, Mr. Williams, a "Consulting Engineer," comes forward with the positive statement that such products are being burned successfully in this kiln.

We know that since that time a few such kilns have been put in operation on heavy clay products and others are being built, but the best information we can get is that none of them has yet "demonstrated beyond any reasonable

doubt" that they are practical or at least are the best that could have been done in kiln selection today and, in our opinion, it is a foregone conclusion that some of them are doomed to failure.

Mr. Williams is privileged to express his opinion that "it is only a question of time before all brick and tile makers must come to this form of burning or shut up shop," but in making public such an expression in *The Clay-Worker*, he must expect to be called upon to give some reasonable basis for his prediction.

The railroad tunnel kiln is undoubtedly the ideal kiln, as it always has been, and is well adapted for certain products. It may even be the "kiln of the future" for brick manufacturers, as Mr. Williams calls it. We were told that thirty-five years ago, when one of our competitors was using it. But what we want to know, is it the kiln of the present, is it a kiln that a brick manufacturer can safely build today?

TRUTH SEEKER.

#### CAMDEN USES OWN BRICK.

Camden, N. J., claims an annual brick production of 30,000,000 and they claim to use the big bulk of the brick in building Camden. If Camden builds of brick she is wise. In using her own brick she gets double benefit, she patronizes her home industries and she gets the bigger benefit of safer, saner, more enduring construction and a freedom from fire loss and casualty.

#### REBUILDING EUROPEAN HOUSES WITH OLD BRICK.

It is significant that the shattered homes of France and Belgium that were built of brick will furnish a lot of brick for their own rebuilding. Most of the brick can be cleaned and used again. The brick plants of these countries will be unable to supply the demand for years to come and the salvaged brick will be little less than a godsend. There is no getting away from the fact that brick have many advantages as a building material, and one of the most important is the indestructibility of brick. "Once a brick, always a brick," and always at your service.

#### IMPROVEMENT IN PAVING BRICK INDUSTRY INDICATED.

Improved prospects for plant operation in the paving brick industry during the coming winter, over conditions which have prevailed for the last few winters, are indicated by a recent questionnaire to members of the National Paving Brick Manufacturers' Association, according to an announcement made by Maurice B. Greenough, secretary of the association. Replies from 71 companies having a normal output of 4,570,000 tons show what 56 producers with an aggregate capacity of 3,630,000 tons expect to be in full production during the next six months. Nine companies, representing 639,000 tons, report the prospects of operation as doubtful. Six companies only expect to be shut down. Last winter approximately 60 per cent of production was closed down.

#### PIPING.

The Carrier Engineer Corporation, with head offices in Newark, N. J., has issued a special pamphlet on industrial piping. This is the same concern that issues the unique publication, the "Weather Vein," and its ambition seems to be for excellence in publications as well as in the details of its work. The pamphlet on piping is finely illustrated with pictures of actual installations of unusual and complicated jobs of piping for many industrial purposes.



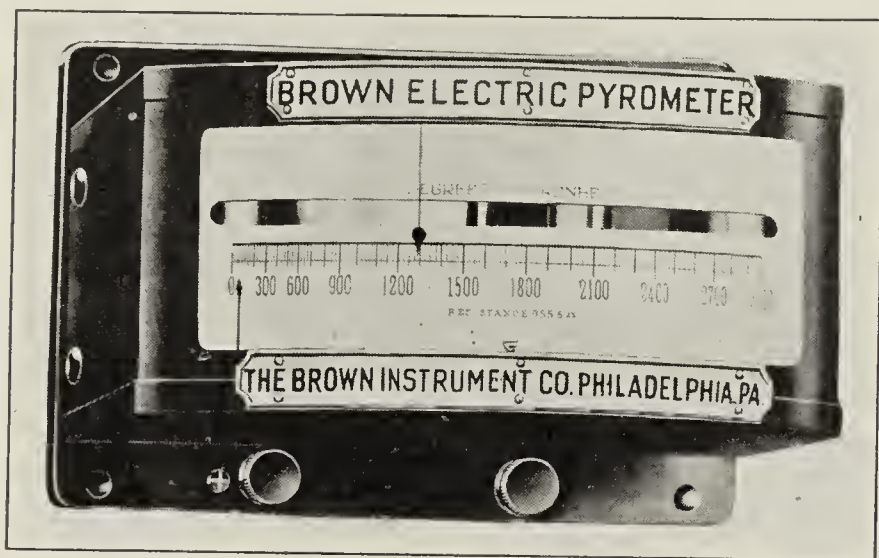
# NEW BROWN COLD JUNCTION COMPENSATED PYROMETER.

Patented December 28, 1920.

THE Brown Instrument Company, Philadelphia, Pa., is placing on the market a new Thermo-Electric Pyrometer, which is automatically compensated in the instrument for changes in cold junction temperatures and which includes means of setting the pointer of the instrument to zero in the usual manner.

This is an improvement on the method of cold junction compensation developed by Darling in England, in 1909, and an improvement on a few subsequent developments for automatic cold junction compensation brought out since that time. These former methods afford no means of setting the instrument to zero. It is customary on all electrical instruments, including Millivoltmeters and Pyrometers, to supply a zero adjuster to enable the user to set the instrument to zero, provided the zero has shifted, due to jars in transportation or with continual service. The Brown method is the only one which embodies this most necessary feature.

Darling used what is called a Briguet spiral, a compound strip of two metals of different co-efficient expansion. The Bri-



Brown Pyrometer Compensated for Cold Junction.

guet spiral was used to move the scale dependent on the change in atmospheric temperature surrounding the instrument, or as an alternative, this Briguet spiral was mounted to act on the springs controlling the moving element of the Galvanometer. Darling's device was never used to any extent because it was evident that unless an instrument had a means of setting to zero, serious errors might result in the use of the instrument. Suppose, for example, the instrument pointer was standing at 110°F., was the pointer standing at this position on the scale because the temperature surrounding the instrument was 110°F., or was the temperature surrounding the instrument only 90°F. and the zero shifted 20°? Naturally, no accurate temperature instruments could be secured with this element of doubt.

The new Brown construction patented December 28, 1920, includes a means of setting the instrument to its proper zero. This is clearly set out, for example, in Claim 1, as follows: "In an electrical instrument, a pointer, a scale operatively arranged with respect to said pointer, means to automatically compensate said scale for changes in temperature surrounding said instrument and means for establishing a normal zero, whereby said pointer can be set to zero."

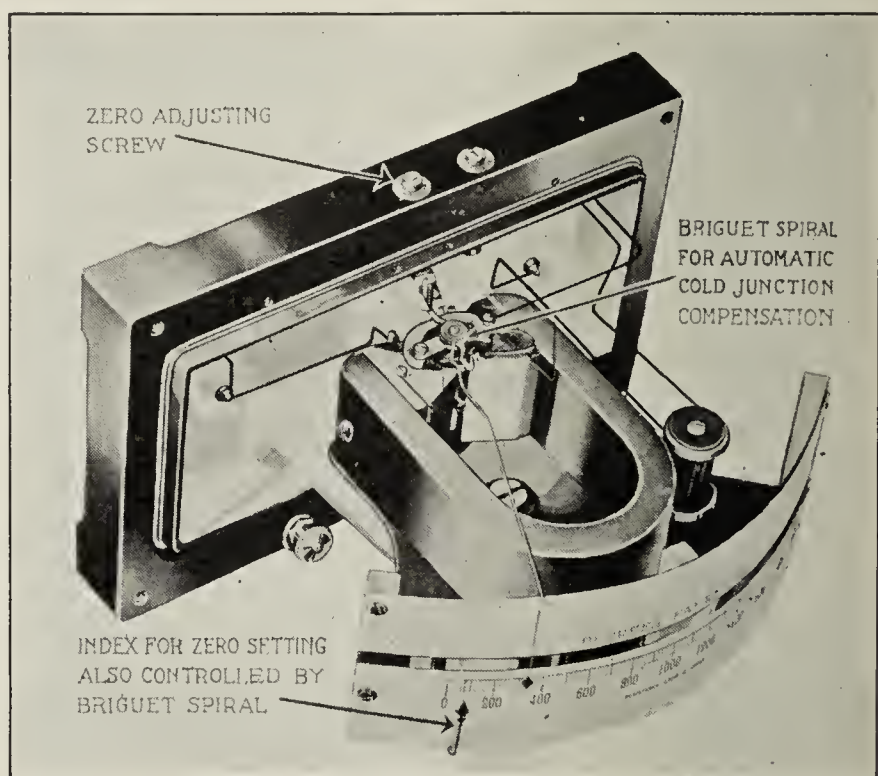
It is generally understood by all users of Thermo-Electric Pyrometers that the millivoltage or e. m. f. developed by a thermo-couple is dependent on the difference in tem-

perature between the hot and cold ends of a thermo-couple. To secure accurate measurements of temperature, it is therefore necessary that the cold end of the thermo-couple be maintained at a constant temperature or the instrument must be compensated for the changes in temperature at the cold junction of the thermo-couple.

It is common practice to use what are known as extension or compensating leads, formed of material similar to the thermo-couple, which will transfer the cold junction from the binding posts of the thermo-couple to a distant point. Heretofore, it has been necessary to locate the cold junction at the end of the extension or compensating leads in a cold well in the ground or in a compensating box, where the temperature can be maintained constant.

If the new Brown Pyrometer, compensated for changes in temperature of the cold junction is used, the extension or compensating leads are brought to the meter. Changes in temperature at the end of the extension or compensating leads also take place in the meter itself, which can be compensated for this change in temperature.

There are two methods by which this compensation can



Interior View of Brown Compensated Pyrometer.

be easily secured. A portion of the scale of the instrument may be mounted on thermostatic material and moved, dependent on the change in temperature of the meter and in this way automatic compensation may be secured. Only a portion of the scale is moved and an index on the other portion of the scale denotes the normal zero of the instrument.

A Briguet spiral similar to that used by Darling may be mounted in the instrument, controlling the springs and moving element directly, and a second index controlled by thermostatic metal may be mounted on the scale. This index works with change in temperature exactly in relation to the movement of the pointer controlled by the Briguet spiral attached to the moving element.

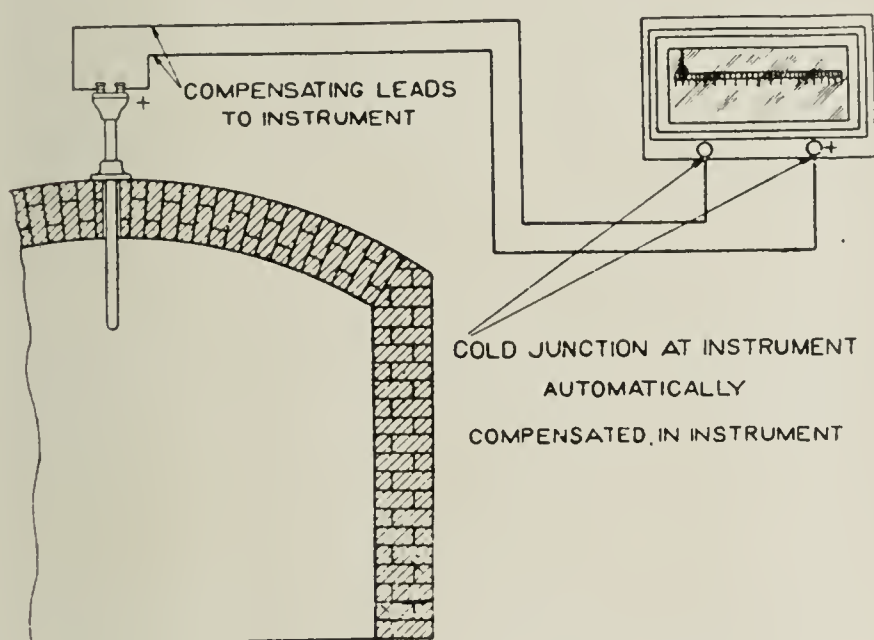
In using the new Brown Pyrometer compensated for cold junction changes in temperature it is only necessary to bring the compensating or extension leads from the thermo-couple to the instrument. After mounting the instrument, the instrument pointer is set by the zero adjuster to correspond with the index on the scale. If the values for a thermo-couple have been determined, based on a cold junction of 75 deg. F., the index will indicate 75 deg. F., provided the instrument



is subject to this surrounding temperature. If the instrument pointer does not correspond with this index, it is set accordingly. When the temperature surrounding the instrument and the cold junction of the end of the compensating leads at the instrument rises to 90 deg. F., the index automatically rises to 90 deg. F., and the Briguet spiral attached to the instrument pointer causes it to move up 90 deg. F., automatically adjusting for the temperature of the cold junction of the thermo-couple.

It will be understood that any number of thermo-couples with their extension or compensating leads can be brought to the one instrument having this automatic compensation. Likewise, recording instruments can be equipped with this automatic compensation and means for setting the pointer to zero.

This improvement in Thermo-Electric Pyrometers will be appreciated by the many users of these instruments, who are confronted with the difficulty of maintaining a constant cold junction temperature. Those familiar with this difficulty will also appreciate the necessity of having a means of setting an



Wiring Diagram Brown Compensated Pyrometer.

instrument to its normal zero, which is afforded in the new Brown construction covered by their recent patent.

#### METROPOLITAN PAVING BRICK COMPANY NOTES IMPROVEMENT.

A reduction in freight rates would help more than anything else at this time to improve the general brick industry. This statement was made to a Clay-Worker scribe recently by B. R. Keplinger, assistant general manager of the Metropolitan Paving Brick Company, largest manufacturers of paving brick in this section of the United States.

"There is a decided improvement in the paving brick industry the past month and indications are very bright for a good fall season," Mr. Keplinger said. "All four plants of the Metropolitan Company will be in operation commencing Tuesday, September 6, which will mean a bigger operation capacity than at any other time this summer," he added. All four plants are located in the Canton district.

"The two plants of the company, No. 1 and No. 2, at Bessemer, Pa., manufacturing paving brick also will be operating at top speed after the first of September. No. 1 plant, which is a new one, is practically completed and is ready to manufacture its product. The No. 2 plant, which is a two-machine factory will be turning out its quota of paving brick next month."

According to Mr. Keplinger the building material end of

the brick industry is slow, due to the inactivity in the building circles in this district. Building this summer has been less than 50 per cent of what it was a year ago and for this reason brick manufacturers have not fared so well in the sale of their products. This condition has affected the standard building brick and building tile, and culls.

While cheerful as to future prospects in the brick industry manufacturers here say they would be greatly pleased if a reduction in freight rates would be forthcoming but none expect this before April 1, of next year. "I believe there is a slight possibility of there being a cut in freight rates about the first of the year, but, of course, this is only my opinion," said Mr. Keplinger.

#### MORE THINKING NEEDED.

Irving T. Bush, president of the Bush Terminal Company, Brooklyn, who recently told in Forbes about his experiments with employing young college men, said among other things, "I believe in anything that teaches anyone to think."

His opinion seems to be that more thinking is essential to better progress and to the welfare of industry and business. Continuing, he said:

"My experience has been that the greatest difficulty with boys who enter a business house is not that they think wrongly, but that they do not think at all. Many are willing to put in one day of hard work after another in the conscientious performance of their duties, but they seem to believe their thinking should be done by the men higher up. Many of these young men are perfectly capable of thinking if they will only try. There is no doubt that if any of us can be induced to approach a task with the belief that we are capable of thinking about it and that if we keep on thinking about it we shall probably develop something that will make us do our work better, we shall, in all probability, actually do the work better. After all, doing a job a little better than the other fellow is all there is to success."

#### THE BOOK OF SMILES.

AS USUAL The Book of Smiles for August contains its average grist of pleasantries as well as the full quota of good advice in regard to drying brick which under the system of the Standard Dry Kiln Company is a simplified operation that is proving very satisfactory to many brick men of the country. If you are interested, write them for particulars, 1587 McCarty St., Indianapolis, Ind. If you enjoy light reading, ask for a copy of the Book of Smiles. You will be surprised at some of the tit-bits, for example the following:

##### Diplomacy.

The late Senator Quay used to tell of an Irishman who prided himself upon his delicacy and tact. One day when a boy was killed in a quarry where the Irishman worked, he told the men to leave everything in his hands; he would break the news to the boy's mother as it should be done.

He went home, put on a black suit and tie, and started for the mother's shanty.

"Good mornin', ma'am," he said. "'Tis the sad accident yer boy's gold watch has met wid."

"Why, said the mother, "Tom never had a gold watch."

"Sure an' that's lucky," said the diplomat, "for twenty tons uv rock just fell on him."

##### Summer Vacation Problems.

He took her rowing on the lake,

She vowed she'd go no more,

I asked her why—she answered me;

"He only hugged the shore."



# TIDE TURNING IN RIGHT DIRECTION.

Spirit of Optimism Grows as Outlook for 1922 Brightens. Idle Plants Resume Operation. Improvements Are Made and New Plants Are Being Erected.

## \$200,000 PLANT AT CISCO, TEXAS.

The Cisco Clay & Coal Company has commenced the construction of a brick plant at Cisco, Texas. I. M. Justice, the ceramic engineer of the Manufacturers' Equipment Company of Dayton, Ohio, that has taken a contract for the construction of the plant, is in charge of the work. George H. Smith of the J. C. Steele Company, of Statesville, N. C., was in Fort Worth recently in connection with the same business. The plant will cost approximately \$200,000, and will have a daily minimum capacity of 50,000 brick. The board of directors of the Cisco Clay & Coal Company is composed of H. J. Robertson, T. B. Hoffer of Fort Worth, W. E. Smith of Cisco, J. A. Colliton and C. B. Nash of Fort Worth.

## LARGE PRODUCTION OF ROOFING TILE IN CALIFORNIA.

About 4,000,000 roofing tile will be produced in 1921 by California's clay products manufacturers, according to Howard Frost, president of the Los Angeles Pressed Brick Company, in a statement prepared for the industrial department of the Los Angeles Chamber of Commerce. This will be used to inform manufacturers and architects about this phase of the clay products industry, which has grown to enormous proportions in the last few years because of the increased use of more durable and fire-resisting materials in the construction of homes and commercial buildings. Mr. Frost puts California as second in the production of roofing tile in the United States, the ranking position being claimed by Ohio. It is also shown that the Los Angeles Pressed Brick Company produces approximately 75 per cent of the roofing tile manufactured in the state.

## LARGE DRAIN TILE PLANT RESUMES OPERATION.

After having been idle since the last of June, the National Drain Tile Co.'s plant at Terre Haute, Ind., has resumed operations and is giving employment to about 80 men, according to L. R. Whitney of the company. The stock in the yards has become depleted and sufficient orders have been received to guarantee steady operation through the winter and spring. Two large orders have come to the company calling for about 200 carloads of tile and other large contracts are expected within a short time, and these, together with the usual demand, assures the management a good market for some time to come. In speaking of the reopening of the plant Mr. Whitney declared that the time during the shutdown had not been wasted, as a force of men had been kept busy making improvements throughout the plant.

## IMMENSE PLANT AGAIN IN ACTIVE OPERATION.

The Superior Silica Brick Company's large plant at Port Matilda, Pa., resumed operations September 1. Even when the Superior plant closed down completely, on May 15, it had then been operating on only half time. Now, with organization in excellent shape, the plant in fine condition for turning

out product, and, best of all, orders plenty, the industry resumes with every indication of keeping up the pace indefinitely. One hundred and fifty men are employed at this large operation and they have all been called to their places. L. Y. Green continues as superintendent. Raymond C. Albright, Tyrone, Pa., is president of the company and John S. Ginter, also of Tyrone, is secretary and treasurer. The plant has a capacity of 50,000 silica brick a day, the product being in great demand for the lining of open hearth and other furnaces. The Port Matilda plant and the tenant houses, all constructed in recent years and owned by the company, occupy eighty-seven acres. Besides, the company has 776 acres of ganister land on the Bald Eagle ridge, all material necessary to the manufacture being concentrated in the combined holdings.

## PLANT WORKING AT FULL FORCE.

C. F. Smith, superintendent of the Fulton Fire Brick Company, reports that the plant is now working with a full force and the business outlook at the plant is better than it has been at any time during the past six months. The company has been enabled to operate at full capacity because of a reduction of 12 per cent in the wages of laborers at the plant. The men accepted the wage reduction without complaint and are putting in full time. Up to the time of the reduction men had been working four days a week and for a considerable period the plant was shut down entirely. They have welcomed the resumption of work on full time basis. The commercial business of the plant has picked up nicely again and soon promises to be of considerable size soon. The orders from the American Arch Company for railroad material also has taken a spurt during the past several weeks. The American Arch Company has a large interest in the Fulton Fire Brick Company and uses the bulk of its products in filling contracts with railroads for fire box linings.

## FINE EXHIBIT OF CANADIAN POTTERY.

Beautiful specimens of pottery made in Canada from Canadian clay were displayed on July 18 at the sixth entertainment given by the McKay School Equipment Company in honor of teachers in the city for the summer. J. S. Neil, who showed the specimens, explained that they were made by F. W. Black, a Scotsman, who had served in the war, and who on his return to Canada had looked about for a congenial occupation, and had found one in the manufacture of articles from clay in the vicinity of Bowmanville. Mr. Black had found the clay in this district to be admirably adapted for dinnerware or art pottery, and had discovered that it possessed remarkable and unexpected qualities. It can be used just as it stands without being put through any special process, and has the power to increase in size instead of shrinking, as clay usually does. The samples displayed were all made by Mr. Black in his shop in Bowmanville, and it is expected that he will soon be able to place his industry on a commercial basis.



### MEXICAN TRADE PROSPECTS.

There is considerable interest these days in developing and extending our trade and industrial connections with Mexico and there is much promise of great development in Mexico during the next few years. This will open the way for some marketing of clay products but the bigger opportunities there will be in the machinery people furnishing machinery and equipment for brickmaking and clayworking in Mexico. We should develop during the year an interesting market field for clay working and handling machinery in Mexico, and we should be after this business, too, because it will either come here or go to the older countries and this is the logical place for it.

### FORESTRY LEGISLATION.

We are in for some national and state legislation in the matter of forestry all of it looking to the safeguarding of the future by preserving our forestry resources. The clay working industry has two lines of interest in this. One is the broad interest of public citizenship which calls for the safeguarding of our future welfare, and the other is an interest which comes from the fact that a wider use of brick and hollow building tile makes for a natural conservation of timber in building operations. Therefore the more brick and hollow tile the builders use the more timber will be saved for other purposes. And in time it will all be needed for other purposes more keenly than it is now needed for structural work. So in promoting a wider use of clay products the clay working industry is not driving out lumber, but is helping to conserve it for the many needs which may call for its use in the future.

### AMERICAN CERAMIC SOCIETY MEETING AT ST. LOUIS IN 1922.

The Twenty-fourth Annual Meeting of the American Ceramic Society will be held in St. Louis February 27 to March 2, 1922.

St. Louis is growing to greater importance as an industrial city every year. It is one of the largest centers for refractories and heavy clay products, while enameled ware, glass, and terra cotta are abundantly represented. A week of trips for the inspection of plants would be none too long.

The Hotel Statler will be the headquarters of the Society and its facilities for the comfort of the meetings are unexcelled. Large rooms for divisional meetings, with a choice of ball rooms and banquet halls for the general sessions, will be available; while the luxury of the private rooms is too well known to need description.

It will be noticed that the date is later than is customary. The reason for this is that the month of February is buyers' month in St. Louis, and the city is overcrowded without the additional influx of a national convention. The local men therefore urged that the date be put at the very end of the month, and the decision was made in accordance with this advice.

### ENOUGH FIRE CLAY TO LAST ONE HUNDRED YEARS.

According to John A. Caldwell, president of the Savage Mountain Fire Brick Company, Frostburg, Md., there is enough clay in the eight foot veins extending into Savage Mountain to supply the plant for the next hundred years. Recent surveys have proved that a wonderful possibility lies in the clay banks of the Savage Mountain.

The fire clays of Western Maryland were discovered in the fifties on the eastern slope of the mountain. The clay meas-

ures lay in a very ugly pitch, 30 to 35 degrees, and the clay itself in a very inaccessible place, but the quality of the brick manufactured from the clay was soon brought to the notice of the large iron manufacturers.

Long before the Baltimore and Ohio built its line from Cumberland to Pittsburgh, Savage Mountain brick was shipped to Wheeling and transferred to boats and sent up the Ohio River to the Monongahela and the Allegany and there delivered on the wharves of the large manufacturers in Pittsburgh. The demand for this article was also sufficient to ship them to Baltimore, where they were transferred from the B. & O. by wagons and thence to Philadelphia.

The company's operations were started in 1862 and it was one of the pioneers in developing the rich mineral known as flint clay in Western Maryland. The brick positively will not spall and will stand a tremendous heat. The company was organized by the late Lovelace M. Gorsuch.

Mr. Caldwell states that business at present is very dull except in the manufacture of building brick. In normal times the company with its allied works at Potomac, W. Va., employ in mines and yards over 200 men.

## OBITUARY.

### Passing of Ohio Brick and Tile Manufacturer.

William H. Heilman, of the firm of Heilman Brothers, died at his home in Tiffin, Ohio, August 26, after a long illness, aged sixty-four years. During the first few years of his business career he was associated with his father, who was a pioneer brick and tile manufacturer of Tiffin. In 1885 he and his brother Otto built a new plant, which they have operated ever since. Mr. Heilman had a wide circle of friends to whom his death will be a source of much grief.

### Well Known New York Brick Man Dead.

Valentine F. Whitmore, one of the pioneer brick men of Western New York, died at his summer home, The Highlands, near Rochester, N. Y., the latter part of August, aged seventy-seven years. Mr. Whitmore was a native of Germany but had lived in this country since he was five years old, and in Rochester ever since he was eighteen. Mr. Valentine was president of the Rochester Clay Brick and Tile Corporation, and was also interested in the contracting business, being at the head of a large contracting firm. A widow, three sons and one daughter survive.

### Massachusetts Clayworker Killed in Auto Mishap.

B. C. Pierce, treasurer of the Presbry Stove Lining Company, Taunton, Mass., was struck by an automobile and instantly killed September 10. Mr. Pierce had been riding with a party of friends and while passing through Middleboro decided to stop and see a friend. He passed in the rear of the machine and was struck by an auto coming from the opposite direction and thrown forty feet, sustaining injuries which caused almost instant death.

Mr. Pierce was one of the best known manufacturers of stove linings in the country, and had many friends in the industry in various parts of the nation. He was authority on the manufacture of stove linings, having been connected with the business for more than half a century. He was a member of the National Brick Manufacturers' Association, his membership dating back many years.

He was born in Taunton seventy-seven years ago, and had spent his entire life there. He is survived by a wife and one daughter.



## THE TRADE QUIZ BOX.

*Many readers of The Clay-Worker are wont to ask the editor for information on various matters pertaining to the brick and tile business. Usually such questions are answered by letter on the theory that the party asking the question is the only one particularly concerned, but many times the queries are of a general character and cover points in the trade in which the general reader may be interested, so we have inaugurated a Trade Quiz Box. Under this head, questions and answers will be given and any reader who can give further particulars in response to any particular query, or desires information on any phase of the business, is invited to make use of this department.*

### HOW TO TEST BUILDING BRICK.

**QUESTION:** We are experimenting with some new clays in the manufacture of common bricks, but do not know the proper tests to make after the bricks come out of the kiln in order to determine whether or not they will stand up under use for ordinary building construction—in other words, the only thing we can determine now is appearance and we do not want to take chances in going ahead and manufacturing the product until we are absolutely sure that they will make good under exposure in extreme climates. If you do not have this information, kindly advise where we can have these tests made. We presume the government has such a bureau, but if it is possible, we had rather make these tests for ourselves.

**Answer:** We make a good many tests of clay but have no apparatus for testing brick, except the Standard Rattler for paving brick. In our tests of clays, we test the hardness of the burnt body at different temperatures and the absorption and are able to pronounce with reasonable assurance whether brick from the clay would stand the stresses in walls and also weather conditions in any climate. The opinion given is not so empirical as it may seem, since it has been proven, in the first place, that even a soft or moderately burned brick will stand many times the crushing strain that it would ever be subjected to in the highest building. Second, as to resistance to weather changes, if there are no cavities in the brick, such as are sometimes formed in stiff-mud brick, any hard-burnt brick will stand the severest weather without damage. Even if there are cavities, a hard-burnt brick is not likely to be disrupted after it has been laid in the wall from the freezing of water absorbed from the exposed face. Soft-burnt brick, especially if a shale brick by the stiff-mud or dry-press process, ought never to be exposed to the weather. In fact, no soft-burnt brick ought to be used in the outside facing of a wall.

It should need no testing to determine which brick, of a given clay, or soft burned, since the color alone will indicate that, after the examination of a few brick from different parts of the kiln. Scratching the brick with a knife or sharp pointed steel will help to settle this point, since a hard brick cannot be cut with a knife and a scratch will only leave a metallic streak on the brick.

Another simple test that anyone can make is the absorption test. A few tests of a given brick, of various degrees of hardness of burn, will determine which brick are hard, and a hard-burnt brick when laid in the wall will never be damaged by any weather conditions. To make the absorption test, boil the weighed specimen in water for five hours and then allow it to cool with the water. Weigh the saturated sample and express the absorption in terms of the dry brick

by dividing the weight of the dry brick into the weight of the water absorbed and multiplying by 100. Tests have shown also that the crushing strength of a brick varies inversely as the absorption.

A more convincing test, of course, is the freezing test. This cannot be satisfactorily made in your climate without a refrigerating plant. The brick should be frozen ten to twenty times. If no facilities can be had for freezing, the Glauber's salt test has been shown to give the same results, though more severe. Orton reported that four tests with the salts disintegrates a brick as much as 20 freezing tests. Anyone can make this test. First thoroughly dry the bricks, then immerse them in the sodium sulphate solution for a few hours and then dry rapidly at a temperature a little above the boiling point of water, say 225 degrees F. This should be repeated three or four times. The salt absorbed in the pores of the brick crystalizes in the rapid drying and produces an effect very much like that of freezing water. By making this test on your new bricks and comparing with the same test on the bricks that have been proven to resist extreme weather conditions, you will ascertain what may be expected of the new bricks.

When I was a beginner in brick manufacture, we had our brick tested at a government arsenal for crushing strength and advertised the results with considerable pride, but the fact is, which I didn't know then, that I have never made a brick that anyone need test to determine its durability. Nature never produced anything more durable than a hard-burnt brick.

If the brick are to be used for facing, the most important test is that determining whether they will effloresce—if a red-burning clay, whitewash or if a buff-burning clay, turn green. This is the only questionable point about a modern brick, that is one made and burned by modern methods. Of course, I am assuming that there are no limestone pebbles or fragments in the clay, which burning to lime and on exposure to the moisture of the atmosphere expand by hydration and pop or spall the brick, leaving ugly white specks.

EXPERIENCE.

### FIRE INSURANCE SKETCHES.

**J**OHAN B. MORTON, President of the National Board of Fire Underwriters, with headquarters in New York, has been getting out a series of eight sketches under the title, "Giving a Thought to Fire Insurance," which deserve thoughtful reading. In the first sketch reproduced in this issue he goes into history of fire insurance, of big fires which led to more wide-spread insurance, and big fires which insurance organizations have weathered safely. Then he takes up in others of the series the matter of schedule rating and how property owners may contribute to economy and lower cost for insurance by certain precautions and improvements in their surroundings. Insurance costs plainly depend directly upon reducing insurance hazards and building with a material that is proof against fire. The more we do of this, the more fireproofing in construction work, and the more proper safeguards we take the more we can reduce that item of overhead cost which we call insurance.

### IF IT HAD BEEN CLAY.

The applicant for a job in the country asked what his duties would be. He was told he would have to be up at 5 o'clock to clean the horses and harness and do various other jobs about the farm. After breakfast he could help in the house, clean knives, boots, etc. The farmer was going through a long list of duties when the applicant asked what the soil was in that neighborhood. Was it clay or gravel? "It is gravel," answered the farmer. "But why do you want to know?" "Oh," explained the youth, "if it was clay, I thought I might make a few bricks in my spare time."



## STOP, LOOK! LISTEN!!

THE SEPTEMBER issue of THE DART, published by the Medart Patent Pulley Co., Inc., St. Louis, Mo., contains a number of interesting "stories" among them one under the caption, "It May Be a Cure-All," which is well worth reading, as it tells in a quaint way the need for more performers rather than reformers, so we reprint it in full.

### IT MAY BE A CURE-ALL!

For one, I am plumb sick of all this talk about "Capital and Labor," "The Great Unwashed Proletariat," "Is the Binet Test a Cure for Falling Hair?" "Does the Eight-Hour Day Unfit a Man for Toddling?" and "Knee Skirts as a Stimulant in Place of Alcohol."

It strikes me that what this world needs right now is a damcite fewer reformers and a damzite more performers.

We are so busy talking efficiencies that we only have time left to produce deficiencies; we discuss industrial relations so much that we fail to practice industry.

We need less advice about how to do things—and a heluva lot less device for not doing them.

We need less argument and more action, less "welfare" and more work, less give and more get.

I knew a man who had rheumatism and moved around entirely on his knees for four years, during which time he cleared thick beech and maple timber from forty acres of heavy lands, besides carrying on the work of a pioneer farm.

He was aided and abetted in this crime against the four-hour day by an energetic and thrifty wife and numerous growing children.

He lived to eat a dozen simon-pure buckwheat flapjacks as trimmings for a breakfast of solid food every morning until he was well past eighty. His average working day was around seventeen hours.

He wasn't particularly remakable in his generation.

It was a generation that never got fogged on the fundamentals. It knew that to eat bread, a man had to raise wheat. If he failed to raise wheat and the neighbors couldn't help him (generally they couldn't in those days), he stood an excellent chance of acquiring starvation title to a 6 x 2 plot of ground.

The men of that day didn't give much of a tinkersdam about the relations of owner and worker or whether employers kept a chiropodist for every ten employees.

Those men, as do all of us, lived and loved and smiled and suffered and, when their time came, died—but through it all until the end, they **worked**. And they made America the greatest producing country in the world.

The most elemental proposition in Nature is that man must work to live—"in the sweat of his face shall he eat bread." The trouble today is that most of us want to eat only cake and three-inch porterhouses, without sweating—beg pardon, perspiring one single, little perspire.

Everyone has the "gimmes."

Two colored boys, one tall and one short, were standing down at the St. Louis Union Station the other day. The tall one produced from his pocket paper, tobacco and match, rolled a cigarette and lit it.

The short boy watched him and finally said, "Say, boy, gimme a slip."

The smoking negro fished in his pocket and handed over the paper.

"C'mon, boy, gimme some tobacco," begged the little fellow.

He got it, along with a corner-eyed look, and proceeded to make his cigarette. That finished and in his mouth, he looked at the taller negro.

"Now, gimme a match, won't yuh?" he asked finally.

The tall negro slowly produced the match and passed it. As he did so, he spoke for the first time.

"Say, boy, where at you git that thar moufful o' gimmes, anyhow?" he queried.

The universal request is "gimme an easy job and gimme more money and gimme everything the other fellow has—and then gimme butter on it!"

It is sickening! The only things any of us should ask for are a little less government and a lot more grit—and health. We can hustle for all else we are entitled to.

The only persons whose positions are secure are the dead ones—and most folks don't want security at the price of death.

Here is what ails us—we are plain, shiftless, good-for-nothing lazy. We try to get wages without work—ease without expenditure of energy. We attempt to dictate the value of our efforts, rather than accept the market price for the products of those efforts.

And it can't be done.

The law of compensation has never been repealed—and perpetual motion is still a chimera. We can't get something for nothing or lift ourselves by our boot-straps. And if we all turn preachers, where will the congregations come from?

It is time for us to quit living in tomorrow and begin living in TODAY. Today is the only day in which we ever will accomplish anything.

We should quit dreaming about what we will do when success strikes us or the millennium overtakes us—and start planning how to give more real service and better value for every dollar we receive today.

The world is facing some big problems, we are told.

Most of those problems depend upon readjustment from war conditions and the mental attitude of the last few years.

Readjustments will be here when all of us know that we are getting a dollar's worth for every dollar that we spend. And that, again, is predicated upon each of us giving a dollar's worth for every dollar that we get.

This means greater output at lower cost—more economical production, which will permit more equitable prices and restore normal demand.

In other words, it means honest work and useful service.

By way of solution of the problem of economical production, let every individual in this country—every individual in your business and our business—let you and I—try this:

Get right down in harness on the particular job that is ours or the first job that comes to hand, be it sweeping a floor or directing a bank, and do it in the very best and the very quickest way that we can discover—and let the other fellow go and do similarly.

If we do that I'm thinking it will be a mighty short time until we will have no need to worry about prices or profiteers, leagues of nations or fool notions, union or uniforms.

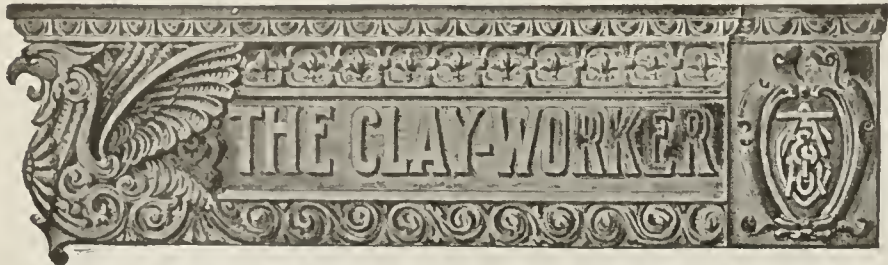
If all of us will try to be satisfied with our job and our joys, our food and our Ford, our faith and our friends—and will **work likell and smile**, quite probably most of the world's problems will solve themselves, without special legislation by congress or the appointment of additional government commissions.

And should conditions not be pleasing after we have given that plan a fair test, there is still time for us to go to the Fiji Islands and launder fig leaves, join the Utopia being operated by Messrs. Lenine, Trotsky et al, or become prohibition enforcement agents.

But for prosperity's sake and all our sakes, let's give honest work a trial first.

Waiting for orders before starting to make brick is not a good way to push business. Make the brick, and while they are in the making hustle for the orders.





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THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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CURRENT COMMENT.

Clayworking has speeded up.

\* \* \*

The ranks of the unemployed are now thinning out.

\* \* \*

Wages of bricklayers in Chicago have been reduced so that they now get "only" \$1.10 an hour.

\* \* \*

We went abroad and bought a two million dollar zep. It went on a trial spin, and "zip" and it wasn't.

\* \* \*

If we could disarm suspicion of ulterior motives it would be easy enough to secure disarmament among the nations.

\* \* \*

There are a lot of fine ideas of democracy in industry which look a lot better on paper than they work out in practice.

\* \* \*

Now that the vacation season is over we are beginning to look for that persistent reminder that there are only so many days left before Christmas.

\* \* \*

If we can keep up the good roads work through the winter it will not only help relieve the army of unemployed, but will help keep the wheels of business and industry moving.

\* \* \*

The farmers, like other people, have been bumped a little financially, but they haven't "gone broke" and they seem to be now getting back on their feet again in good shape.

\* \* \*

We have been fed up on a lot of Big Bull about how to cure our industrial ills, and now we are all beginning to real-

ize that it is purely a matter of persistent plugging at regular work.

\* \* \*

One way for the business man to keep himself from being hurt by dull times is to engage in more adventures.

\* \* \*

One of the compensations for the coming short days is that all our clocks will be fixed so that they look alike once more.

\* \* \*

We will have a tax problem as long as we have taxes, and it will be a complex problem as long as too many people keep offering too many solutions for it.

\* \* \*

Now it is beginning to look like the enforced disarmament put upon Germany which it was thought sounded like a hardship is really proving to be a great blessing.

\* \* \*

And now Brother Ford is making the big railroad folks sit up and take notice because he is trimming railway freight rates as well as automobile prices. Good luck, Henry.

\* \* \*

It looks like there will be a goodly share of winter building this year and that this in turn will call for more than the usual amount of winter running on the part of clayworking plants.

\* \* \*

Now it looks like we were trying to start business uphill on high and have realized that it is not a good thing to do. Business is picking up gradually and steadily just as it should have been doing right along.

\* \* \*

If we must have armament and if we must fight future wars, we have an abounding faith in the ability of Uncle Sam to lick any country in the world. But the great question is, why should we have to do it?

\* \* \*

Uniformity in cost accounting will help some but it will not entirely solve the problem of the annual inventory and appraisal of plant and equipment because deflated values make necessary a new working base.

\* \* \*

There is some prospect that we may have trouble getting enough coal during the fall and winter, so if you have not stocked up, or have not safeguarded your coal supply in some manner you are taking some chances.

\* \* \*

As the call increases for brick and hollow tile for building purposes we are made to realize that there is a great need for more people trained in the art of bricklaying. Let us get busy and recruit the army of bricklayers.

A BIG RECORD IN MINERAL PRODUCTS.

A preliminary report of the U. S. Geological Survey shows that our mineral products for the year of 1920 reached the astounding total of \$6,707,000,000. This is 20 per cent more than the total for the previous record year, 1918, and it is 40 per cent above the 1919 record. Mineral products of the country now involve 70 or more different items, including precious minerals, the familiar hard metals and many stone and non-metallic products, including fertilizer, clays, etc.

HIGHER INTEREST.

Every man who has had to borrow money to help carry on his business knows that interest rates are higher these days. This means that to have a net profit left a business man must figure a higher interest return both on the operating capital



and on the capital investment in plant, grounds and machinery. The returns on these should be in proportion to the interest on the cost of replacement, and unless the valuation is kept high the interest rate must be increased, otherwise a lot of what looks like profits will be going out to make up the deficit in interest allowance.

#### A BUSY FALL.

From reports coming in it looks like earlier predictions made in these columns will be fulfilled and in many sections of the country there will be a scramble for building brick this fall.

Brick buying in the New York district has been so active that there is evidence that shortage may develop and that the Hudson River plants will be called upon to operate through the winter for the first time on record, and that the New York territory at that will run short of brick.

Other sections of the country report increased building activity, too, and taking the country as a whole it not only looks like a busy fall in building operations, but the signs point toward pretty thorough cleaning up of the brick stocks on hand and busy days among the brick plants during the fall season.

#### THE JOBLESS.

A mid-summer estimate of Secretary of Labor Davis showed 5,735,000 unemployed workers in the United States. This is the biggest army of unemployed on record it is said. And it not only calls for serious thought, but it calls for actual effort to better the situation through finding jobs for some of the jobless. Since that estimate was made conditions in the building world have improved and more people are employed and the outlook is more hopeful all around for further employment before winter. It is not enough, however, to have things simply looking better, we must turn to and make them better. Those who have something for the jobless to do should be offering jobs and help relieve the situation of unemployment before the trying conditions of winter weather comes upon us.

#### THE ANNUAL FIRE DAY.

October 9 has been observed for several years now as fire prevention day, and usually attention to the subject of fire prevention has spread out over the week with this day as a central feature. In the present year October 9 comes on Sunday, the first day of the week, so while it is the official day of observance the main activities will be during the week following.

Have you, dear reader, made a memorandum of this and have you made preparations to see that the week is made one in which safety against fire is featured and in which some good work may be done toward promoting the building of fireproof structures in your community?

Round figures given show that our annual fire loss includes about three hundred million dollars in property, about eighteen thousand human lives, and about sixty thousand others suffer bodily injury during the year. Keep these figures before you and make up your mind that you are going to stir up a warm interest in your community in fire prevention during the week beginning October 9.

#### WINTER RUNNING.

Indications now are that the clayworking industry is to have more than the usual amount of winter time running. Building operations have been gaining headway and the demand for brick and hollow building tile has been increasing

as the year advances. This, together with the efforts to make the building industry an all the year business, is piling up the late fall and early winter demand in a way that points toward busy times through the winter. In short, at the present the indications are that between the immediate demand and the necessity for stocking up against the early spring demand many clayworking plants will be called upon for more than the usual amount of winter operation. It is time, therefore, to get busy, to look into your surroundings and make preparations ahead of your winter season to do whatever amount of winter work you think will be required.

#### WHY PAY HIGH RENT?

One of the old slogans of those promoting home building was made up of the question of "Why Pay Rent?" This question is peculiarly effective right now because many people have been suffering from high rents and are seeking a way out.

It makes an unusually favorable condition for promoting home building and home ownership. Likewise it is a splendid time to trot out along with it some other good reasons for home building. One of them is that the home owner is not only a credit to his community, but the minute a man becomes a home owner he thereby establishes a measure of credit for himself and that is worth something.

It is easily evident, too, that many who could build homes have neglected to do so because they have for the time being preferred to satisfy other desires, such as owning autos and enjoying life in various ways. Some have considered the home as a handicap in case they should want to change their location, and so on. In fact there are many instances where there is unwillingness rather than inability to build which has resulted in the neglect of home building. Now is a mighty good time to get busy stirring up this home building instinct which really is very deep rooted in human nature, get it into action and get out of it an era of home building that will be good for us all.

And, while about it, it is up to the clayworking industry to preach the doctrine of building good homes of permanent fireproofing material.

#### UNIFORM ACCOUNTING.

There has lately been developed a question as to the attitude of the Federal Trade Commission toward uniform cost accounting. As a result of some corresponding between the Chamber of Commerce of the United States and the Federal Trade Commission it develops that the Trade Commission is in favor of thorough and careful cost accounting, and even in favor of uniform cost accounting in a given industry so long as this is not made the basis for price fixing or other objectionable acts.

There seems to be back of it all a little suspicion on the part of the Federal Trade Commission that when the people in a given industry take up through their trade associations uniform methods of cost accounting they will use this as the basis for standardizing cost figures to an average basis and make these the foundation for prices. This is a thing that the Federal Trade Commission does not look favorably upon.

As a matter of fact, price stability, one of the plain needs in any business, depends directly upon uniform cost accounting and the exchange of information on costs to the end that a general range may be set up as a sort of standard for each man to work by. It is probable that the time will come when there will be a show down between business men and the Federal Trade Commission. Meantime in the matter of uniform cost accounting the Federal Trade Commission appears to approve it, but at the same time where it is put into



practice it will keep a suspicious eye on the industry adopting it through trade associations to see that it is not used as a basis for what is termed ulterior practices.

#### DEATH OF BAYARD PHILLIPS OF PITTSBURGH.

Mr. Bayard Phillips, treasurer of the Phillips & McLaren Company, Pittsburgh, died at his home in that city Tuesday, August 30. Mr. Phillips was the son of the senior member of the firm and had been connected with the company for many years. Those who attended the last convention of the National Brick Manufacturers' Association at Pittsburgh, will remember Mr. Phillips for his genial courteous manner in which he performed the duties as one of the hosts for the convention, and will join with us in extending condolences to his father and the firm.

#### ST. LOUIS, THE 1922 MECCA FOR THE C. B. M. A. AND THE A. C. S.

AT THE SEMI-ANNUAL MEETING of the directors of Common Brick Manufacturers' Association held in Cleveland recently, it was announced the next annual meeting of the association will be held at the Statler Hotel, St. Louis, the week of January 27th. The directors requested the executives of the National Brick Manufacturers' Association to meet there that week. Owing to the fact that the hotels are crowded at that season with buyers it is uncertain whether satisfactory accommodations can be afforded for an N. B. M. A. convention, and on that account the latter organization may be obliged to choose some of the other cities from which invitations have been received, including Chicago, Indianapolis and Louisville.

As previously announced the American Ceramic Society, will meet in St. Louis the week of February 27th, this date being chosen to avoid the crowd incident to the buyer's period, at the suggestion of the local committee.

#### TRADE NOTES.

John W. Colbert, superintendent of the New Castle (Pa.) Mining and Clay Products Company plant, died suddenly at his home August 26. He was 56 years of age and had been identified practically all his life with the clay products industry.

Announcement has been made of the sale of the William Hoyt China Co., Wellsville, Ohio, to William Jackson, of Beaver Falls, Pa. The deal was negotiated through a group of Wellsville business men. Consummation of the deal is considered by the local organization as one of the most important in local industries in many years.

A new sprinkling system has been installed in the plant of the Kenilworth Tile Company at Newell, W. Va. This system which protects every department of the plant was completed at a cost of between \$12,000 and \$13,000, Claude Nease, manager, announced. Taking advantage of a shut-down other repairs have been made in the various departments. The plant will likely resume operations about the second week in September.

The Unitile Co., Urichsville, of which A. V. Donahey is president, reorganized at a meeting of directors and officers this week and plan to enter the sewer pipe and brick manufacturing business. The capital stock of the company, officials said, will be boosted to \$2,000,000. Sen. J. J. Rowe, Cleveland, is vice-president, W. E. Knight, Cleveland, auditor and secretary, Walter Moore, Urichsville, is manager. The plant which is operating at the present time, manufactures floor and mantel tile.

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#### WESTINGHOUSE SENDS INTERCOMPANY MESSAGES BY WIRELESS.

An interplant wireless communication service was formally opened this summer by the Westinghouse Electric & Manufacturing Company, by the establishing of communication between the East Pittsburgh plant and the Cleveland foundry. Besides the Cleveland and East Pittsburgh factories, the Springfield, Massachusetts, works, and the Newark, New Jersey, works are being equipped with stations for the transacting of company business.

The system was formally opened by a message from E. M. Herr, president of the Westinghouse Electric & Manufacturing Company, to P. B. Zimmerman, president of the Electric League of Cleveland. This message was as follows:

"The Electric City at the source of the great Ohio River sends greetings to the Cleveland Electric League. It is fitting that these greetings should be sent by radio—the newest method of communication—and that they be transmitted from the plant of the Westinghouse Electric & Manufacturing Company—a company active in the development and production of all kinds of electrical appliances. We congratulate the Cleveland Electric League on their enterprise and progress in their chosen field and assure them of our hearty co-operation and interest in their activities."

#### WANTED—TO EXCHANGE

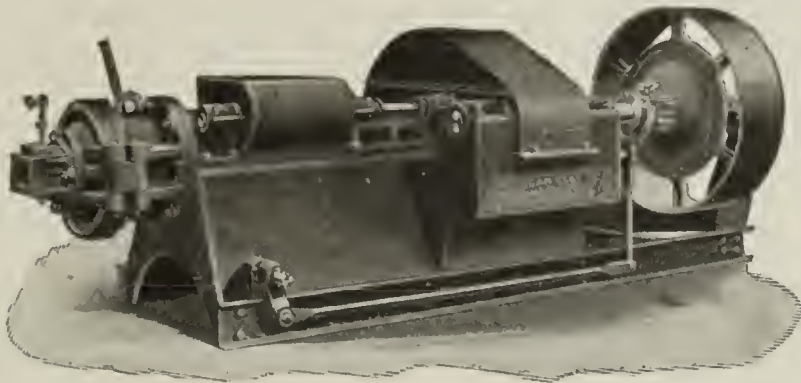
240 acres of farm land in Macoupin County, Illinois, for a small brick or tile plant. Address E. W. G.,  
-93 c Care Clay-Worker.



# The HADFIELD-PENFIELD STEEL CO.

BUCYRUS OHIO, U.S.A.

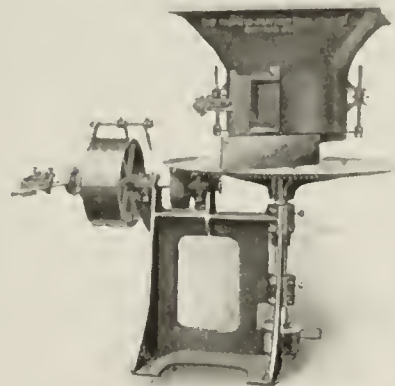
THE AMERICAN NO. 290 AUGER MACHINE.



Massive, Strong, Efficient. It is designed and built for satisfactory service. Large capacity. Get specification Sheet.

THE HADFIELD-PENFIELD STEEL CO., BUCYRUS, OHIO.  
Formerly the American Clay Machinery Co.

AMERICAN NO. 339 DISC FEEDER



This Disc Feeder will insure a perfectly even flow of clay to the pug mill.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

AMERICAN NO. 539 CRUSHER



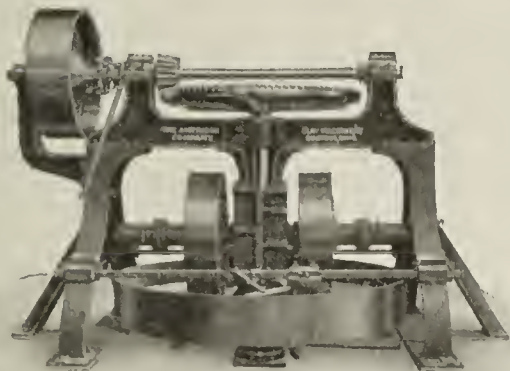
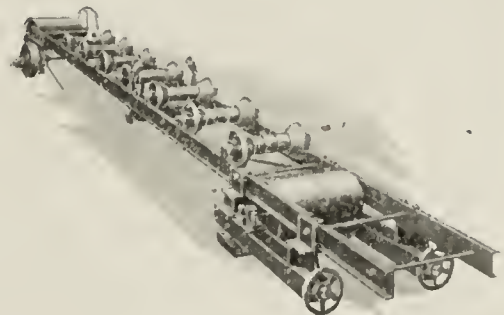
This crusher is backed by a quality which will guarantee performance. A circular describing and illustrating it will be sent on request.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

AMERICAN STYLE "A" CONVEYOR

A structural steel conveyor. Supplied in widths from 18 to 24 inches. Conical wood rolls run in dust proof bearings. Adjustable spider pulleys. No clogging clay. Get price. Give length and width desired.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.



"BUILT RIGHT, RUN RIGHT"  
AMERICAN DRY PAN

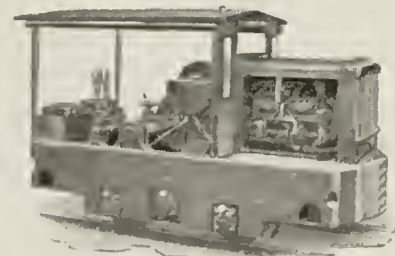
American Dry Pans are noted for quality and capacity. Let us tell you the whole story. Get specification sheets.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

"BUILT RIGHT, RUN RIGHT"

AMERICAN GASOLINE LOCOMOTIVE

Cheap, reliable haulage for clay pit and plant.



THE HADFIELD-PENFIELD STEEL CO.,  
Bucyrus, Ohio.

THE HAIGH KILN.

The Haigh Kiln Saves Half the Coal, Saves Half the Labor.



THE HADFIELD-PENFIELD STEEL CO.,  
Bucyrus, Ohio.



American No. 304 Pug Mill

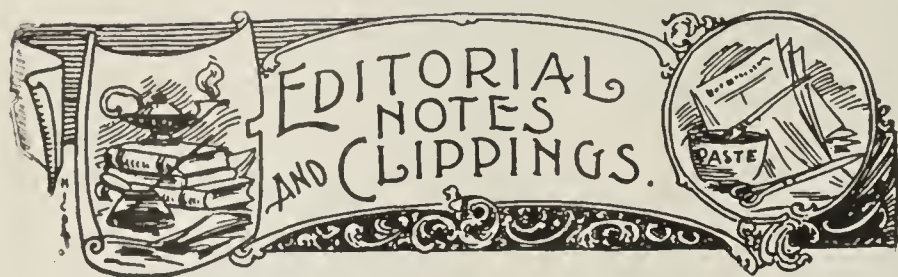
Here's a mill that is light on power. Is built heavy for big capacity and thorough pugging. Get our pug mill circular.

THE HADFIELD-PENFIELD STEEL CO.  
Formerly  
The American Clay Mchy. Co.,  
Bucyrus, Ohio.

# The HADFIELD-PENFIELD STEEL CO.

BUCYRUS OHIO, U.S.A.





Superior Brick & Tile Company, Ltd., Fort William, capitalized at \$100,000, has taken out an Ontario license.

The Kenyon Brick & Tile Company, of Oklahoma City, Okla., has been incorporated with \$125,000 capital stock.

The Universal Clay Products Co., of Sandusky, Ohio, which has been closed down for some time, will start up again October 1.

Joseph Henley has moved from Henley, Ohio, to Portsmouth, Ohio, where he will assume the management of the Peebles Paving Brick Company's plant.

The Columbus Sewer Pipe Co., Columbus, Ga., is planning to rebuild its plant, recently destroyed by fire, with loss estimated at about \$75,000. Judson C. Buchanan is manager.

The Clay Products Association with headquarters in the Chamber of Commerce Building, Chicago, Ill., announces the appointment of George C. D. Lenth as secretary to succeed the late George H. Tefft.

Employees of the Western Brick Company, Danville, Ill., numbering 450, have voluntarily accepted a cut of 10 per cent in wages. The three big plants of the company will probably be run to capacity throughout the winter.

The J. & M. Brick Co., 903 Boundary avenue, Los Angeles, has filed notice of organization to manufacture bricks, tiles and kindred products. It is headed by D. B. Jefferies, 1818 West Forty-ninth street, and E. K. Mullen, 422 Cypress avenue.

The plant of the Jacksonville Brick & Tile Co., on Henry street, in this city, owned by E. T. Harrison, was reopened recently. The plant has been shut down for nearly two years. During recent months new equipment was installed and the plant is now in full operation.

In his will, admitted to probate recently, Hans Paulsen requested that Mrs. Doresta Paulsen, widow, operate the brick yard in South Rock Island, Ill., under the name of Hans Paulsen's Sons, and that Andrew, John and William be employed in conducting that business. She may sell it if she desires, the proceeds to be divided among all the heirs.

The Sheridan Brick & Tile Co., of Sheridan, Wyo., has had a very prosperous season, and is still running to capacity. Brick have been shipped all over Wyoming, and as well to many adjoining states. Early in August the company finished the building of a large new kiln and so is in better shape to meet the demands for their various products, including vitrified paving and building brick, silo brick, hollow building tile and drain tile. A large deposit of fire clay has recently been

located by the company and arrangements are being made to work same.

The Hercules Brick Co., Dallas, Tex., is perfecting plans for new works to cost about \$75,000. A. B. Saling is general manager.

The new plant of the Cheboygan (Mich.) Brick & Tile Company has been completed and started operations the first of September. Many orders were booked before the plant was ready to manufacture.

Northern Clay Company of Auburn, Washington, has received contract amounting to about \$10,000, for furnishing the clay and terra cotta for the new St. Andrew's Hospital under construction at Pendleton, Oregon.

Benjamin Hill, manager of the Farber Clay Company of Farber, Mo., has been appointed surveyor of Audrain county by Governor Arthur B. Hyde to fill a vacancy. Mr. Hill has come to Mexico to qualify for the place and enter upon his duties.

About 200 men resumed work in the plant of the Johnetta Brick Company at Johnetta, Pa., after several months of idleness. Big orders for ladle and high class face brick necessitated supplying the demand, which is expected to increase from time to time. The prospects for steady work from now on are considered excellent.

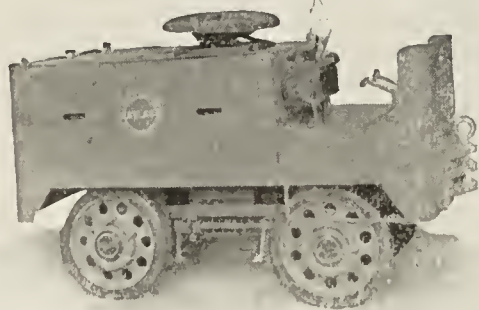
The Alabama High Grade Brick Company resumed operation of their plant at Sylacauga, Ala., late in August, after having been closed for a period of about a year. At the time the plant discontinued operation there was a large supply of brick on the yard, but for the past year there has been a great demand for brick in Sylacauga, and the surplus stock has been exhausted.

The Minor Fire Brick Company's plant at Empire, Ohio, this county, has resumed operations after being shut down for a period of six months. The company furnished employment to seventy-five men, who returned to work this morning. The resumption of operations will be welcome news to the Toronto-Empire district, and indications are that other plants in that vicinity which have been idle will start within a short time.

That oft-heralded "return to normalcy," which has been hovering over Ashtabula, Ohio, for some time, has settled down on the Burton-Townsend Brick Company for what appears to be a permanent roost, according to the local press. Since July 1 the company has been operating at full force, employing some 75 men. The company has closed a contract with an Erie firm for 200,000 Rainbow brick to be delivered as soon as possible. The Erie contractor is to put up 20 houses.

Fire totally destroyed the factory building of the Kushequa Brick Company at Kushequa, Pa., recently, of which Elisha K. Kane was the principal stockholder, and there was no insurance whatever upon the property. The fire started about 11 p. m. but was not discovered until it had made great headway, although three men were at work all night at the kilns and driers. The storage sheds and office buildings escaped the flames and the kilns and tunnel driers were uninjured, but half of the shale tipple was consumed by the flames

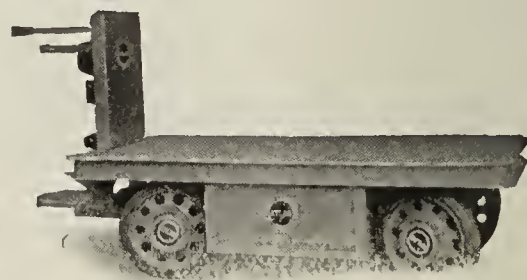
## ATLAS COST REDUCING EQUIPMENT



Storage Battery Tractor

Electric Transfer Cars  
Rocker Dump and Gable Bottom Cars  
Storage Battery Locomotives  
Electric Trucks and Tractors  
Tunnel Kiln Cars

Let us solve your haulage problems.



Storage Battery Platform Truck

**The Atlas Car and Manufacturing Company**  
Engineers Cleveland, Ohio Manufacturers

Mention THE CLAY-WORKER.



as well as the factory building completely destroyed. The power plant and engines therein are injured slightly.

The Superior Brick & Tile Company has been incorporated with \$100,000 to manufacture brick at Fort Williams, Ontario, Canada.

A. B. Fosseen, president of the Washington Brick & Lime Company, Spokane, Wash., reports a very busy season. The company was recently awarded a contract for terra cotta to be supplied to a local job, and additional contracts for near-by towns.

The Panhandle Brick & Tile Co., Amarillo, Tex., has been incorporated with a capital of \$80,000, by W. C. Pope, H. B. Boyle and A. S. Stinnett, Amarillo, to manufacture brick, tile and kindred products.

Vancouver Island Brickmakers, forming a section of the B. C. branch of the Canadian Manufacturers' Association, have announced a cut of \$1.50 per thousand in the price of bricks to the building trades.

The Mathewson Brick & Tile Co., Ltd., has been incorporated to manufacture and deal in brick, tile, terra cotta, etc., at Hamilton, Ont., with \$40,000 capital stock, by Robert F. Ollmann, Frank B. McKune, Frank L. Wanzer and others.

Elmstead Brick & Tile Co., Ltd., Windsor, Ont., has been incorporated with a capital of \$200,000 by W. G. McCrimmon, I. S. F. Walker of Windsor, W. G. Kelley of Detroit, J. W. Kerr, Maidstone, Ont., and H. D. Drake, Walkerville, to manufacture brick, drain pipe, terra cotta, etc.

The new plant of the St. Clair Brick Company at St. Clair, Mich., was started up the first of the month and one of the first orders received was for brick for the St. Clair high school building. The company will manufacture drain tile, as well as brick. George J. Schneider is manager of the concern.

Beginning a run which is expected to last at least four months, the big Renton, Wash., plant of the Denny-Renton Clay & Coal Company recently resumed operation at near capacity, turning out an order of paving block to be used in the construction of the Rainier avenue paving job. At present the company is employing 100 men on the paving block work and

around the plant. The Rainier avenue paving job involves the construction of four miles of brick block paving.

The Progress Pressed Brick Co., Louisville, is planning the erection of an addition to increase the daily capacity from 25,000 to 45,000 brick. A. P. Hildebrand is president.

H. C. Fleming, treasurer and manager of the Laurens (S. C.) Brick Co., announce the plant of the company, located at Little River, S. C., will be enlarged and the capacity increased from 30,000 to 40,000 brick per day.

Another new concern has been launched in Knoxville, Tenn., in the Riverside Brick and Tile Company, which has applied for a charter, giving its capital as \$40,000. Incorporators are: J. W. Dooly, R. P. Black, B. C. Ogle and R. L. Pope.

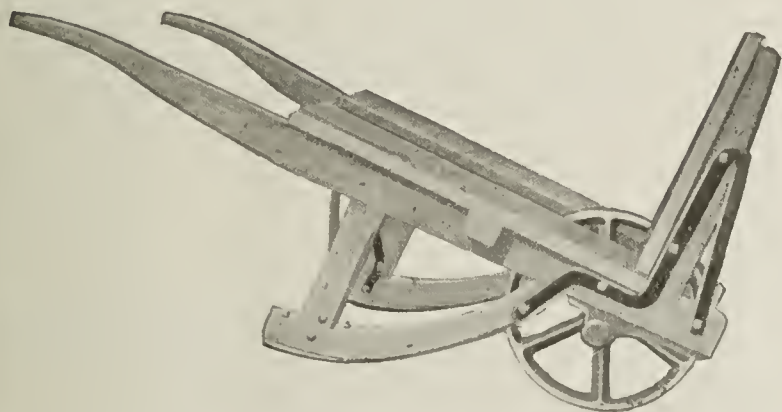
John R. Reark, who has been associated with the Knowles Taylor & Knowles Pottery Company, East Liverpool, Ohio, for thirty-six years as foreman, severed his connection with the company in order to take up the duties of County Recorder the first of September.

The Matheson Brick & Tile Co., Ltd. has been incorporated with a capital of \$40,000 by R. F. Ollman, brickmaker; F. B. McKeene, superintendent; F. L. Wanzer, inspector, all of Hamilton, and W. P. Begley of Matheson, to manufacture and deal in brick, terra cotta, drain tile, etc. The head office is at Hamilton.

The Bingen (Pa.) Brick Manufacturing Company, chartered with a capital of \$100,000, held an organization meeting and elected the following officers: President, E. H. Kresge; treasurer, Mahlon Ritter, secretary, C. Neil Ritter. The old organization known as the Bingen Brick Company, has been dissolved and the plant and business taken over by the new corporation.

The works of the Northern Brick Co., Prince Albert, B. C., formerly owned by Bonas Bros. & Knox, has been purchased by Luke Anderson & Grant Company. Application for incorporation has been made through the registrar under the name of Excelsior Brick Company, Limited. Operations are to commence soon on the manufacture of brick for the Prince Albert jail. The new company is prepared to quote on both common and red sand-faced brick.

## The Invincible Barrow



The favorite barrow has lost none of its popularity. We furnish them for either brick or sewer pipe and with plain wood, babbitted or spring bearings. They are honestly constructed thruout. On account of increased manufacturing facilities we are able to make immediate delivery.

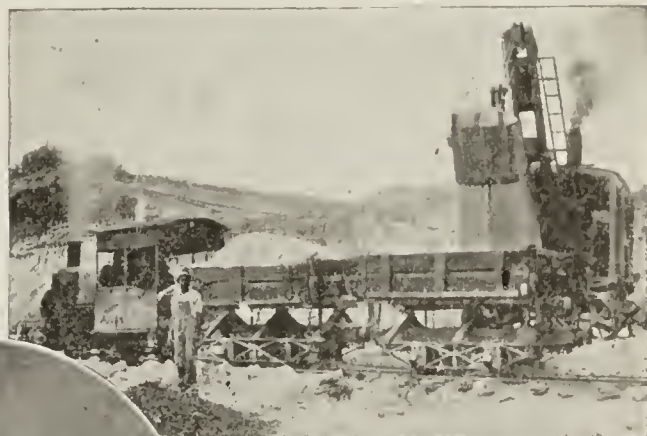
Write For Prices

The Toronto Foundry and Machine Co.  
Toronto, Ohio

The "A" ERIE weighs 13 tons. Rated capacity, 30 to 40 cu. yds. per hour.

The "B" ERIE weighs 20 tons. Rated capacity, 50 to 60 cu. yds. per hour.

These rated capacities are often exceeded.



"We are highly pleased with our investment"

"We congratulate you on having put on the market such a labor saver and efficient worker as the ERIE Shovel. We are highly pleased with the machine installed in our pit—very well satisfied with our investment." Letter signed by J. S. Bone, President Oconee Brick and Tile Company, Milledgeville, Ga.

Just one more sample of the letters that we are receiving from Clay Products manufacturers all over the country.

They prefer the ERIE Shovel because of its large capacity—they appreciate the ERIE most when there is a rush demand for raw material. And the ERIE is **reliable**.

Let us send you full information. Write for a copy of our Bulletin W.

BALL ENGINE CO., Erie, Pa.

Builders of ERIE Revolving Shovels and Locomotive Cranes.

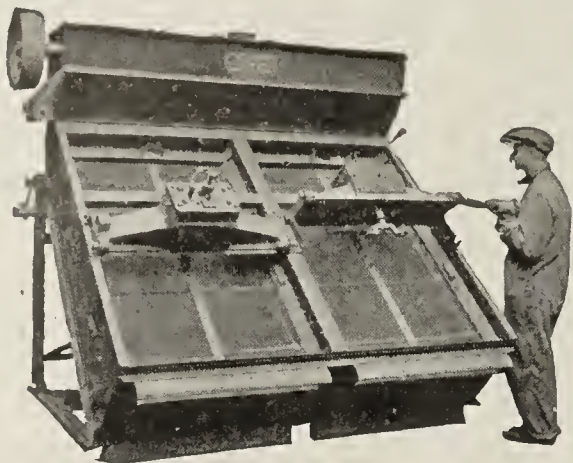


Serves either as steam shovel or as locomotive crane, with clamshell bucket.

**ERIE** Revolving Shovels

**BALL** Engine Co. Erie, Pa.





## Don't let competitors get the edge on you!

Do you know that 75 different materials that were formerly screened through revolving, shaking, mechanically vibrated and bumping screens are now being screened with HUM-MER "Electric" Screens—because the HUM-MER screens faster and better—at a less cost per ton?

You cannot compete on an equal footing by using less productive and less modern equipment than your competitors. To remain at the head of the procession, you must employ the most economical and productive machinery.

The HUM-MER principle of vibrating a taut screening surface by means of a powerful electro-magnet is giving many companies an advantage over less progressive competitors.

Keep pace with your industry—investigate the HUM-MER now. We will gladly test your material on the HUM-MER to show its advantages over your present equipment.

Catalogue 42-W mailed upon request.

**THE W. S. TYLER COMPANY**

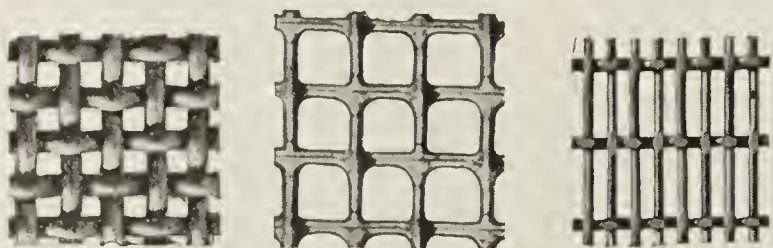
Cleveland, Ohio

Manufacturers of Woven Wire Screen and Screening Equipment.

# HUM-MER

## Electric Screen

*"Makes wire cloth screen faster and wear longer."*



Written Especially for The Clay-Worker:

AMONG PHILADELPHIA BRICK MEN.



THE FIRST WEEK of September is to be taken as an indication of home building in Philadelphia this fall there is every reason to anticipate several hundred two-family houses before the end of this month. More permits for houses of this type were issued during the first week of this month than during any entire month so far this year with the exception of July. Between September 1 to 8, 143 permits were issued to builders of two-family houses; during July 184 permits were issued.

Construction circles do not hesitate to construe this as a sign of better times for them. Some of them point back to August when the estimated cost of building for which permits were issued was \$629,855 over August, 1920. This gain is especially significant since there was a decrease of \$22,174,235 at September 1 for building construction for the first eight months of 1921, compared with the same period in 1920.

The call for two-family houses last spring was very small and few were built. In June it was predicted that little would be done in the building of dwellings this year. Since then, however, the attitude of independent builders as well as operative builders seems to have changed and there is now ambition to get work started immediately and enclosed before cold weather.

Another sign of greater activity has appeared during the past few weeks in the real estate field. A number of large deals have been made public since August 15, some of which will develop into very large improvements. Plans and specifications for the erection of a nine-story theatre and office building to cost \$1,500,00 have been issued the Stanley Company which recently bought a valuable corner, at Market and Eleventh Streets.

A report among real estate brokers for several months that the Western Union Telegraph Company contemplated erecting a large building in the central section of the city, in which it might consolidate all of its local interests finds apparent confirmation in the recent purchase by Andrew F. Burleigh, of New York, of two large contiguous lots on the north side of Locust Street, west of Eleventh Street. Mr. Burleigh is secretary of the Western Union. It is reported the building to be erected will be five or six stories in height and that work will be begun on it very soon. Several other large office and loft buildings are planned for next year and realty transactions of recent weeks, while not leading to announcements of buildings, have led building men to the conclusion that operations will soon be announced which will overshadow all other building since before the war.

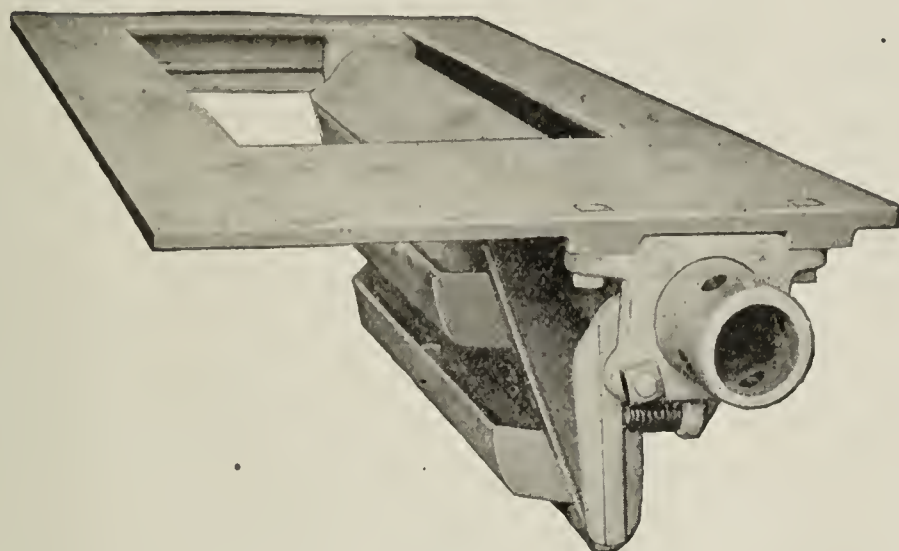
Plans are in progress for the Germantown Municipal Annex to be built by the city. The architect, John P. B. Sinkler, is designing a \$450,000 building of brick and stone. The Drovers' and Merchants' Bank will build a new bank of brick and limestone in West Philadelphia this fall. The Sons of Italy State Bank will rebuild at the corner of Broad and Dickinson Streets a three-story bank, auditorium and office building of brick and stone. The Booth Bottling Company will build a two-story brick bottling plant, 40x100. Many miscellaneous operations of similar nature are on the fall program, in addition to a quantity of repair work such as has been done all year.

Brick men are encouraged by this development in building activity at a time of year when the number of operations would normally be decreasing. They not only believe that business will return to normal with the arrival of spring but most of them set the time for a revival for this fall, predicting that the demand for brick next spring will exceed any demand in recent years.

THE QUAKER.



# The Furnace Gas Producer

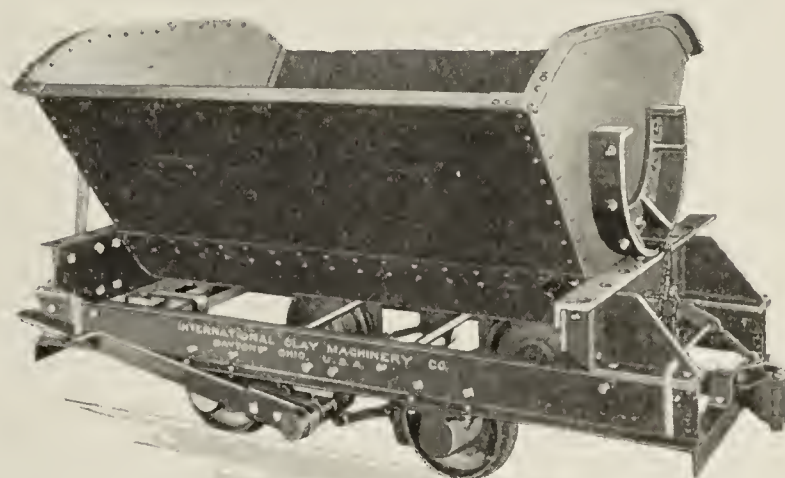
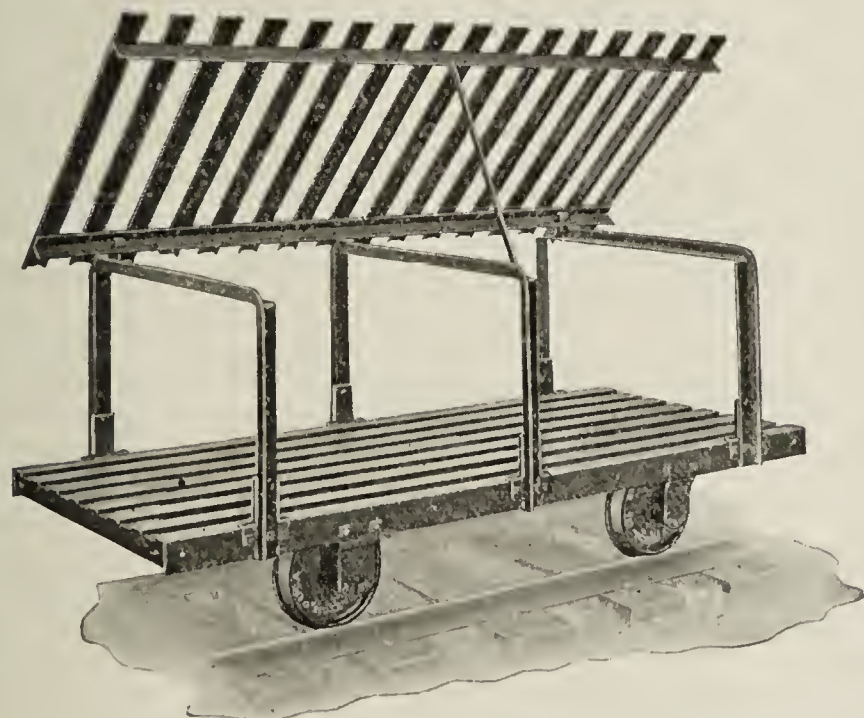


More than 1200  
Sold in a little  
Over a year's time.

The Furnace Gas Producer with Trunnion Dumped

25% to 35% saving in fuel and time of burning made on most installations.  
Write for Bulletins.

## DRYER AND DUMP CARS



Write for Bulletins

## International Clay Machinery Co.

Dayton, Ohio, U.S.A.

Pittsburgh, Pa.

New York

Toronto, Ont., Can.



Written for THE CLAY-WORKER.

## NEW ENGLAND NEWS.



TREND OF AFFAIRS throughout this section is leaning decidedly toward greater activity. The major industries are reviving and with these come the resultant increase in the necessary mill building construction. In fact, there has been a marked expansion along these lines. There are several increases noted in this part that have a good range in value.

Most are between \$100,000 and \$500,000. These are large in size as compared to what has been contemplated in the past.

With the quickening of the textile and shoe industries, building construction in the main, along with these, will soon be on the active plane again. When the industries slumped, building slumped also, which is more or less natural, as neither the operators nor the operatives were inclined to proceed further until something definite could be seen ahead. Now this has been eliminated and the road seems open for increased activity from now on.

From every angle there are bright spots appearing in the various lines of industry and there appears to be a rapid return to normal state of business. During August the total contract awards were well into seven figures and it is the highest total for any preceding period since the year 1919. This bids fair to knock any argument of the pessimistic in the head.

Some of this increased activity might be attributed to the report that has been sent out by the Committee on Elimination of Waste in Industry of the American Engineering Council, which was appointed by the Hon. Herbert Hoover, Secretary of the Department of Commerce. There have been some startling figures given out during the past fortnight. Some action may have come from the revelations made. It has been clearly shown that nearly half a billion dollars is lost annually in the building industry at the present time, due to irregular employment, inefficient management and the extremely wasteful labor regulations. These are the chief causes given for the gigantic waste.

The material market, both in Boston and Providence, is growing more active, with a strong tendency to remain at present quoted levels. The only exception that might be offered is common brick, which has a tendency to go down a dollar or so. The ordinary varieties in the Boston market are quoted at \$17.00 per thousand, F. O. B. job, while in Providence the price is higher and the range greater, being

between \$24.44 and \$28.00 per thousand, with the better quality bringing in the neighborhood of \$30.00.

Hudson River brick holds fairly steady at about \$20.00 on the job, for around Boston, while the Connecticut River product brings around \$22.00 to \$25.00 on the job, according to quantity and hauling distance. The best quality fire brick are bringing good prices throughout the section. Boston quotes No. 1s at \$60.00 or a little more on the job, while Providence has a range of from \$80.00 or a trifle more. These are delivered prices. Face brick in the various moods has a wide range, both in Boston and elsewhere. The rough texture brick hangs around the \$50.00 to \$55.00 mark and does not vary to any great extent. Some dealers may close at a little more, while other might take an order at a little less, but in the main, the price just naturally stays put. These are prices in Boston.

In Providence the fundamental law of supply and demand plays a big part in the prices of face brick, but in the main they compare quite favorably with what has been said of Boston. There may be a little more added on, due to haulage or other fees. The present operations going up in this city have a tendency to keep plenty of stock on hand and the prices will remain steady during this period.

Hollow tile throughout this section is being turned at approximately the same price at New York. Four-inch partition blocks bring in the neighborhood of fifteen cents. This is for the rough four sides, while the eight-inch rough four sides brings twenty-eight cents. These prices seem to remain quite steady with but a fraction of a cent variation one way or the other. Quantity and distance to the job plays quite a big part in the prices quoted, but in the main, may be taken as a criterion of the charges asked.

A fire a few weeks ago destroyed a sawmill connected with the pottery of Winslow & Co., Portland, Me. The blaze was discovered in time to prevent great damage.

The Hampshire Brick Co., at Hadley Falls, Mass., has suspended operations for the year at its yards here. With the completion of the burns in two large kilns, no more work will be done until spring.

It is reported the Lynch Brick plant is burning its second large kiln. This yard is located at Hadley Falls, Mass.

The Bay State Brick & Stone Company of Haverhill, Mass., which recently purchased the property of the Auburn Massachusetts Brick Company, is dismantling the plant and moving the machinery to a new plant in the process of construction in Haverhill. The new plant is expected to begin operations about the first of October and will be the largest in the eastern part of the state. Mr. George L. Baldwin, the former manager of the Auburn plant is president of the Bay State Company.

N. EAST.

## UNLOADING FOR 3 CENTS PER TON



Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.

**The Columbus Conveyor Co., Columbus, O.**

## Webster's Continuous Down Draft and Continuous Muffle Kilns

Patented in United States, Canada and Great Britain. Marvels of ingenuity and simplicity. Pronounced by experts to be the most perfect and cheapest kilns to construct and the most economical to operate, ever invented or put upon the world's markets.

Equally as economical for burning any class of goods from common bricks to the highest grade ceramics, glazed ware, etc.

## HENRY WEBSTER AND SONS,

628 Lexington Avenue, Newport, Ky.

Kiln specialists and consulting engineers. Forty years of practical experience in clay products industries and continuous kilns.

Members N. B. M. A. U. S. A. Institute of Clay Workers Great Britain, Blue prints of kiln can be seen at Clay-Worker office, Indianapolis, Ind.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

## PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

# THE MANUFACTURERS EQUIPMENT CO.

## DAYTON, OHIO, U. S. A.



## BURN WITH OIL

SAVE FUEL  
SAVE TIME IN BURN

## Make Better Ware

Eliminate the troubles from sulphur and carbon in coal gases.

"Mack's SYSTEM" is proving a big success on many clay plants.

Let us tell you about "Mack's Hydro-Carbon Burner" and our system of burning.

### McFALL ENGINEERING CO.

421 S. LIBERTY AVE., ALLIANCE, OHIO

## Manganese

We have prepared for the Spring and Summer building boom. Have You?

We have all standard mesh manganese, especially prepared for Brickmaking, in stock ready for prompt shipment, with our mines and mill running full time.

If you have not already arranged for your 1921 supply of MANGANESE, we would advise that you send us your order for your equipments at once.

*We guarantee an even  
grade product at all times.*

## Hy-Grade Manganese Company

Main Office  
Woodstock, Va.

Sales Office  
Charleston, W. Va.

### SEEN IN NEW JERSEY.



HERE HAS BEEN an increased volume of business noted during the past month. Many plans have been filed for the erection of abodes for the artisan. The totals in many centers run to six figures, and when compared with the same month of a year ago, shows a very substantial increase on the proper side of the sheet.

Using Newark as a barometer, the activity around this center has shown a decided increase over the totals as they presented themselves last year at this time. The provision during the month recently passed through, shows four times as many families taken care of as were provided for during a like period in 1920. Industrial and public work is not exactly lagging, but shows up with a total that is very encouraging.

In the northern part brick at the kiln run in the neighborhood of \$17.00, a variation of a dollar would not be considered very great. Most of the deliveries are made by truck and a steady stream of trucks are required to some jobs. Around Newark, both Hackensack and North River material is being quoted in the neighborhood of \$20.00. This price seems to be well liked, as all quotations are very close to this figure. What is encouraging is the growing demand, for both brick as well as for other burnt clay products.

Much activity is to be noted among some of the plants in the central parts. Many of the manufacturers are inclined somewhat to stock ahead for fall and winter anticipations. Around Hackensack, a fair degree of action is to be seen. In the Raritan section some movement is to be seen but what is really going on is the preparation for what may be expected in the near future. No cargoes are leaving this particular section at present nor have any left of late. Manufacturers feel inclined to wait for further developments, and at present, the North River kilns can amply care for any great demand around New York or her sister boroughs. Demand has not quite reached the point above quantities that are in stock or in reserve.

Face brick are being variously quoted. In the northern parts smooth face grays wire cut are quoted at \$23.00 to \$30.00 per thousand. Smooth face buff brick wire cut at \$23.00 to \$28.00, while vertical scored in buffs and browns in the full range go out at \$21.00 to \$26.00. It is hard to tell just which is in preference, one choosing one kind and the next one with a choice vastly different. Some centers are getting as high as \$50.00 for some selections, with a better choice at a fraction higher. Fire brick has declined in price and at present is quoted in the vicinity of \$70.00, with some dealers holding out for \$75.00. Hollow tile remains quite firm, the price varying with the size required. The lowest is very close to 11½ cents and from there on up to nearly 28 cents in the range. The dealer, and the quantity required with the existing stocks, plays an important part.

There has been space secured at the oncoming Trenton Fair, by the Trenton Potteries Company, of Trenton, N. J. This company plans to make a comprehensive display of many of its sanitary earthenware products.

The Lambert pottery of the Maddock Pottery Company, Trenton, N. J., expects to complete the order for 42,000 pieces of chinaware for the new local hotel, Stacy-Trent, by the fore part of September. All of the ware was of special design and were arranged by an artist at the plant. The order has been moving through the plant for the past six months or more.

The Monument Pottery at Trenton has been granted a preliminary injunction to restrain striking pottery men from picketing their plant. The strike was due to differences between workmen and officials, the company having made a rule that required the men to make good all work that was found to be in imperfect condition when completed. Those that have struck claim they have been deprived of the practice as exists in other shops that calls for a committee to inspect imperfect work to determine whether the flaws in the ware are due to poor workmanship or from causes beyond the potter's control. The potters have been on a strike for a period of nearly ten weeks. In normal times, one hundred and fifty men are employed. At present only a little over one hundred are working.

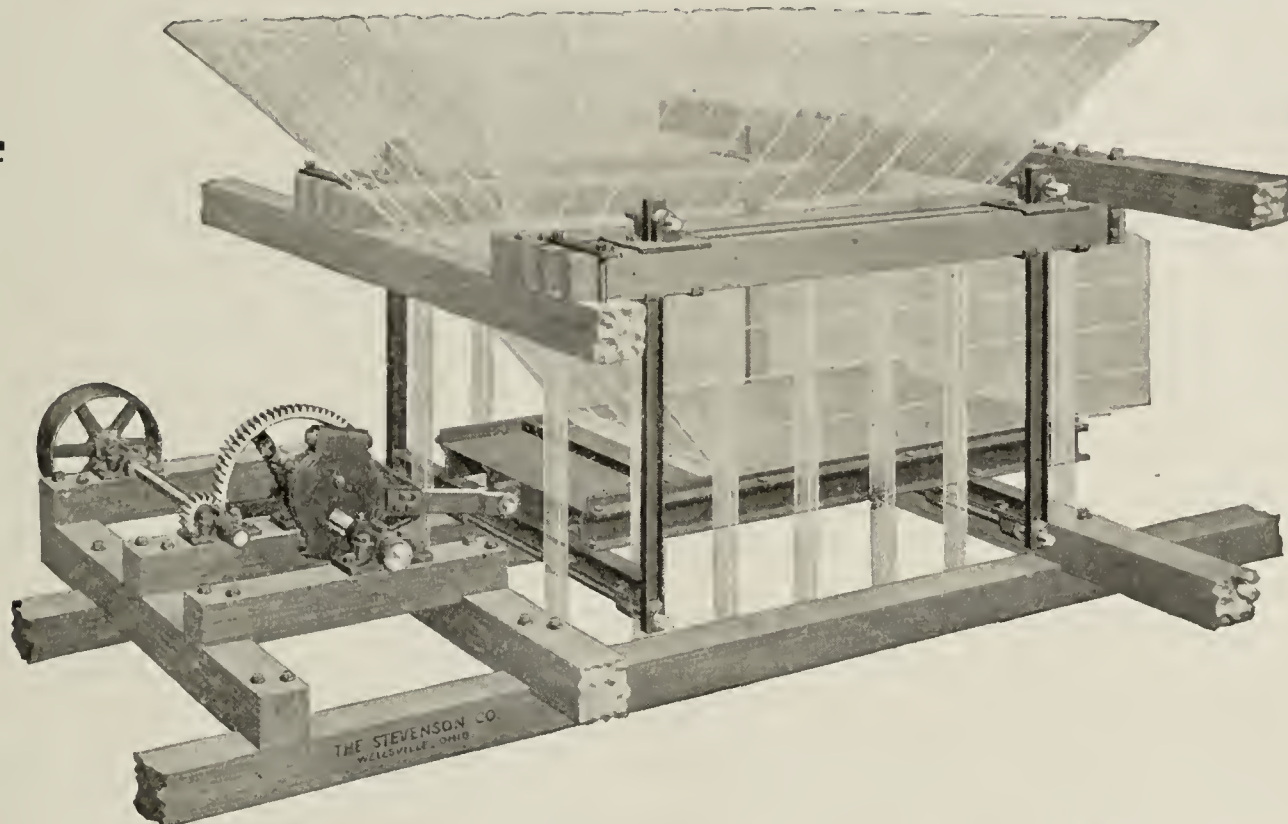
A-L-B



# STEVENSON'S RECIPROCATING PLATE FEEDER

For

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For

C  
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FURNISHED IN SIZES TO SUIT

A MECHANICAL FEEDING DEVICE

OF

HIGH EFFICIENCY

AND

LOW FIRST COST

LOW MAINTENANCE COST

LOW POWER CONSUMPTION

## THE STEVENSON COMPANY

GENERAL OFFICES  
AND  
WORKS

Wellsville = = Ohio

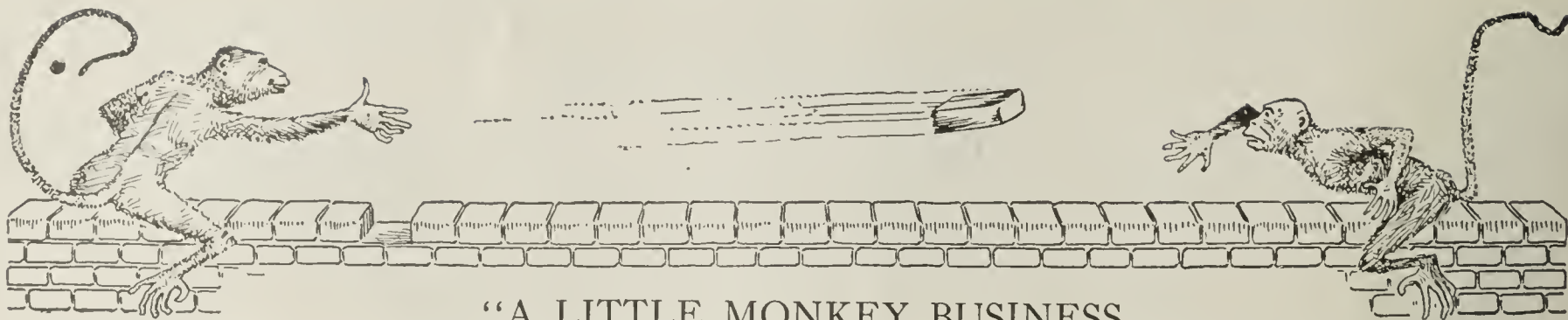
Western Sales & Engr. Office  
802 MONADNOCK  
BUILDING

Chicago = = = Illinois

Bulletin on request.

Mention THE CLAY-WORKER.





**"A LITTLE MONKEY BUSINESS  
NOW AND THEN IS RELISHED BY THE BEST OF MEN."**

**TOUGH LUCK.**

Bricklayer—"Us workmen haven't a chance—the contractor makes all the money."

Owner—"Why don't you go in for contracting?"

Bricklayer—"Can't; wages are too high."

**DEEPLY TOUCHED.**

Pastor—"Don't you think I touched them rather deeply this morning?"

Deacon—"I don't know, sir. I haven't counted up yet."

**STICK-2-ITIVENESS.**

Supposin' fish don't bite at first, what are you goin' to do? Throw up the sponge and kick yourself and say your fishin's through? You bet you ain't, you're goin' to fish, an' fish, an' wait until you've ketched a basketful or else get out of bait. Supposin' Success don't come at first, what are you goin' to do. Throw up the sponge and kick yourself an' growl an'

fret an' stew? Of course you ain't; you're goin' to advertise an' advertise ag'in until success takes hold your hook; for ink is sure to win.

**THE MOTOR TRUCK.**

I am the Motor Truck—of damaged highways  
Ruts and holes, the cursed beginning.  
Yet hear my self defense—I claim  
I'm far more sinned against than sinning.

I plod neglected, time worn roads;  
Until my parts all ache with strain;  
I haul freight cheaper, quicker, better—  
I slave; I sweat;—all for the nation's gain.

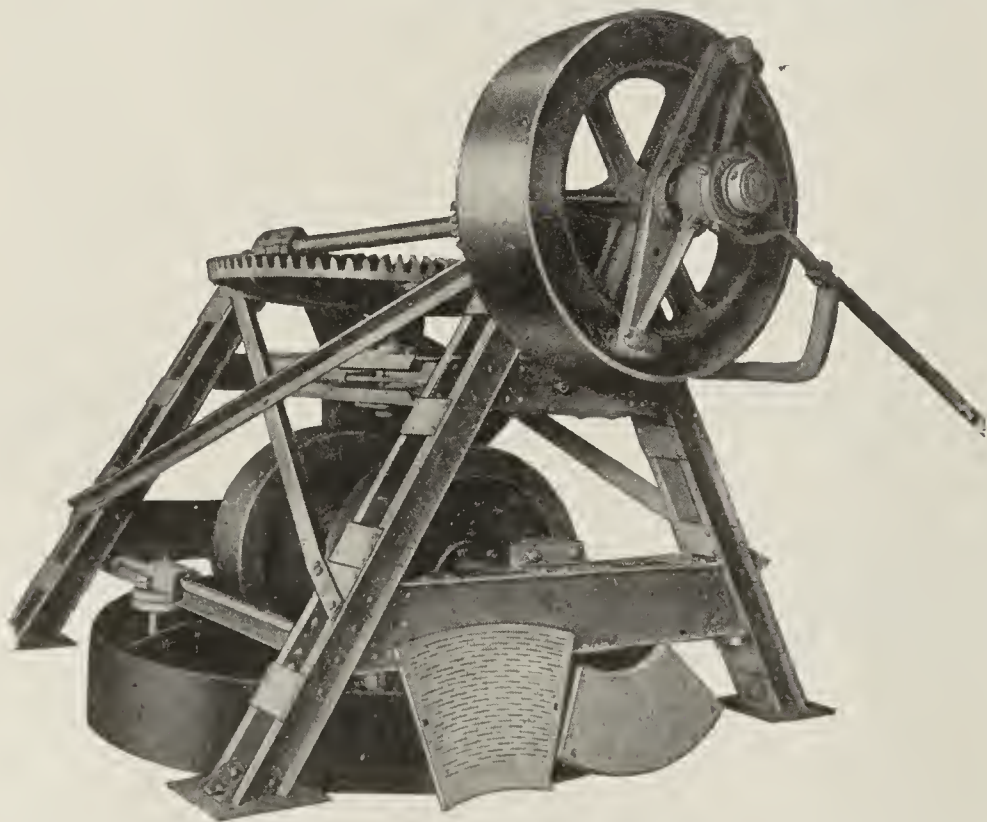
I am a public servant—patient,  
Drudging utility of trade.  
Yet they would starve me rather than  
To build good roads to give me aid.

My railroad brother once outgrew  
His rails by hauling increased freight;  
He wasn't held down to the rails—  
They built the rails to hold his weight.

Unbar the gates that hold me back  
If you would have me haul your loads.  
I'll do my part if you'll do yours—  
Just give me more and better roads.

P. L. SNIFFIN,  
International (Mack) Motor Co.

# MAKE THINGS OF CLAY THE PIONEER WAY



Send for Catalogue No. 30 of The Taplin-Rice-Clerkin Co., Akron, Ohio, U. S. A.—And Everywhere.

**MACHINERY WE MANUFACTURE:** Single and Double Acting Presses (4 sizes), Dry and Wet Pans (3 sizes), Clay Crushing Rolls (3 sizes), Gravity Elevators, Chaser Mills, Wad Mills, Clayworking Dies of every kind and description, Storage Feeders, Flying Feeders, Piano Wire Screen, Factory Equipment,

**REFERENCES (Partial List)**

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| Gladding-McBean Co.,                     | San Francisco, Cal.         |
| The Denny-Renton Co.,                    | Seattle, Wash.              |
| The Alberta Clay Products Co.,           | Medicine Hat, Alberta, Can. |
| The Ontario Sewer Pipe Co.,              | Mimico, Ontario, Can.       |
| B. C. Potteries Co.,                     | Victoria, B. C.             |
| Sidney Island Brick and Lime Co.,        | Sidney Island, B. C.        |
| Tropico Clay Prod. Co.,                  | Los Angeles, Cal.           |
| Big Horn Clay Products Co.,              | Lovell, Wyo.                |
| The Red Wing Sewer Pipe Co.,             | Red Wing, Minn.             |
| The Lehigh Sewer Pipe and Tile Co.,      | Lehigh, Ia.                 |
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| Uhrichsville Clay Mfg. Co.,              | Uhrichsville, Ohio          |
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| Robinson Clay Products Co.,              | Akron, Ohio                 |
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"ARNOLD-CREAGER"

"MARTIN"

**Brick Machinery and Supplies  
for  
Building Brick and Fire Brick Plants.**



This photograph shows the S. S. S. Special in operation, delivering the pallets of bricks on to a cable conveyor on which they are transported to the dryer in perfect condition. By using straight gravity, instead of the curved gravity, the cable conveyor can be run straight from in front of the machine instead of at right angles as shown.

**The Famous  
"Martin"**

**Steam Pipe Rack Brick Dryer**

in combination with the "Arnold-Creager" Automatic Brick Machine completes the most efficient and economical method for manufacturing brick.

**The Famous  
"ARNOLD-CREAGER"  
AUTOMATIC BRICK MACHINE.**

More than 50 now producing more brick of better quality at lower cost than possible with labor operated machines.

One user tells us it is "almost human" and "does everything but talk".

Ten Fire Brick manufacturing plants have installed this wonderful machine and the quality of brick has largely eliminated repressing.

We can send you testimonial letters from most every user. Ask us to do so.



Interior view of Steam Pipe Rack Brick Dryer, showing Cable Conveyor.

Manufacturers  
of  
"Martin"  
Brick Machinery  
Originated 1858

**LANCASTER IRON WORKS, Inc.,**  
Brick Machinery Department  
Jamer P. Martin, Manager,  
LANCASTER, PENNSYLVANIA.

Successors to  
Arnold-Creager Co.  
New London, Ohio  
Originated 1877.

*Specialists in complete equipments for Building Brick and Fire Brick Plants manufacturing by the soft mud process.*





# 50,000 Bricks Daily from this Kiln with less than 3% Salmon

View showing the 44 chambers of the Haigh Continuous Kiln at the Lehigh Brick Co., Allentown, Pa., Brown controlled.



No matter what type of kiln you are burning, the secret of a low percentage of Salmon, a minimum use of fuel and a shortening of time of burns is—**know your kiln temperatures night and day.** Don't trust the word of your burners that correct temperatures are being held.

With a Brown Indicating Pyrometer to guide the men and a Brown Recording Pyrometer in the office of your Superintendent, "Slips cannot occur. Every 'burn' must be a 'top-notch'."

This statement is backed by over 500 of the leading Brick Plants in the country. Let us send you the names of Brown users in your immediate vicinity.

Put on our shoulders the proof that we will save you money. Just note number and type of kilns you operate. Address the Brown Instrument Co., 4505 Wayne Ave., Philadelphia, or District Offices at New York, Pittsburgh, Cleveland, Detroit, St. Louis, Chicago, Denver, San Francisco, Los Angeles and Montreal.

# Brown Pyrometers



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Will dry your daily output in TEN HOURS with either WASTE HEAT or EXHAUST STEAM.  
Less cost to build—Less cost to operate.

### Boss System of Burning

Brick or hollow ware burned in ONE-HALF LESS TIME and ONE-HALF LESS FUEL. Increases your kiln capacity. Dryers and kilns designed and built. Let us solve your drying and burning problems.



**J. C. Boss Engineering Co.**  
Elkhart, Indiana



YOU HAVE KNOWN FOR YEARS THAT

## RICKETSON'S MORTAR COLORS

are pure and brilliant in tone, economical in application, absolutely reliable, and a permanent guarantee against fading and washing.

### Why Not Insist on Having Them?

They are the acknowledged best for all uses---Mortar, Brick, Cement, Concrete and Stone.

**Red, Brown, Buff, Purple and Black.**

**RICKETSON MINERAL PAINT WORKS**  
MILWAUKEE, WIS.

## CARS CASTINGS DIES

In our Foundries and Machine Shops we are prepared to furnish Dryer Cars, Clayworkers' castings and Dies of all kinds for sewer pipe press and machines, Etc. Write for Prices

**Wm. E. Dee Co. 30 N. LaSalle St.**  
Chicago, Ill.

## Over 60,000 In Use

Oil Burners For All Types of Kilns



Perfected to  
The Minute

### HEAT TELLS!

Write us today

"Be Sure It's Schurs"

## SCHURS OIL BURNER CO.

Established 1905  
Los Angeles, Cal., U. S. A.



# Classified Advertisements

## FOR SALE, WANTED, ETC.

Advertising rates in this column 35 cents a line, or 6 cents a word each insertion; about six words make a line. Cash should accompany the advertisement to insure insertion. No ad inserted for less than \$1.00.

## WANTED, ETC.

### WANTED.

Position as manager of brick, tile or fire brick plant, where owners want to operate at least possible expense. References exchanged. Address,

MANAGER,  
91 dm Care Clay-Worker.

### WANTED.

Married man to take charge of brick plant manufacturing common mud brick, 37,500 per day. House furnished. Location, California. Address,

CALIF.,  
91 c Care Clay-Worker.

### WANTED.

Position as superintendent or manager of brick or tile plant or will accept proposition to straighten out burning troubles, or systematize plant operations. Address,

F. C. M.,  
91 cm Care Clay-Worker.

### WANTED.

Position as superintendent or manager of brick plant. Am a practical man in all leading lines from clay pit to office. Am A No. 1 burner. Address

F. D. K.,  
81 d Care Clay-Worker.

### POSITION WANTED.

Trained executive and salesman, now employed, wants change. 45 years old; 14 years sales, engineering and executive experience, largely in fire brick. Would be interested in development of new project anywhere, but can make no investment. Excellent references. Address

PENNSYLVANIA,  
82 cm Care Clay-Worker.

### WANTED—POSITION.

As manager or superintendent of hollow tile plant. Can furnish best of reference. Have practical experience in hollow ware, including silo and conduits. Employed present position eight years. Will give sufficient reason for seeking change. Address

H. E. H.,  
82 cm Care Clay-Worker.

### WANTED.

Fifty thousand capacity Chambers end cut brick machine and pug mill. State condition, price, location. Address,

RED BRICK,  
91 cm Care Clay-Worker.

### WANTED TO EXCHANGE.

7,500 acres of valuable undeveloped Michigan farm land for going brick and tile factory. Cash for difference.

H. H. GARDEN,  
83 cm Salem, Va.

### WANTED TO SELL.

On account of retiring from business will sell my share of about \$20,000 in up-to-date pottery located in second biggest city in the country. For technical or office man big future assured. Address,

POTTERY,  
91 dm Care Clay-Worker.

### WANTED.

An experienced man with A-1 qualifications as superintendent for plant making shale paving brick. Must be good manager of men. Give full particulars, experience and salary desired in reply. Address,

SHALE BRICK,  
91 d Care Clay-Worker.

### WANTED.

A live, energetic, up-to-date man as superintendent of a large paving brick plant. Must have a thorough knowledge of the paving brick business and especially skilled in burning. In replying state age, experience and salary expected. Address,

ENERGETIC,  
9 tf d Care Clay-Worker.

### WANTED IMMEDIATELY.

Practical and experienced man for manufacturing end of face brick, fire brick and hollow tile plant. Must be in position to purchase small interest in business to insure associates he will remain permanently. Must be experienced burner. Address ALABAMA,

73d. Care Clay-Worker.

### WANTED.

By a high-class, well qualified man, position as superintendent or manager of hollow ware plant. Have had practical experience in manufacturing all kinds of hollow ware, including silo block and conduits. References as to ability, etc. Address

HOLLOW WARE,  
93 d Care Clay-Worker.

### WANTED TO BUY.

About 300 second hand double deck dryer cars in good condition.

M. F. FAIRBANKS,  
91 cm Metamora, Ohio.

### WANTED—TO BUY.

A small horse power brick machine, second hand. Prefer one in South. Must be cheap and in working order. Give all information. Address,

BOX 28,  
91 cm Elizabethtown, N. C.

## FOR SALE

### FOR SALE.

Stiff mud brick plant. The only one within thirty miles. Everything in first-class condition. Doing a good business. Cannot near fill the demand. Located on eleven acres of clay.

BROOKS LONG BRICK CO.,  
8 tf d Jackson, Tenn.

### FOR SALE.

Brick manufacturing plant. Situated on the Hocking Valley railroad, at Union Furnace, Ohio. 230 acres of land, containing buildings and equipment and a very large amount of clay suitable for making the famous Columbus buff, gray and speckled face brick, also red dry pressed face or rough texture brick.

For particulars address  
MR. F. F. HOFFMAN, Secretary,  
85 North High Street,  
83 cm Columbus, Ohio.

### BRICK MACHINERY FOR SALE.

Arnold-Creager Automatic and SSS, Potts, Martin, Hercules, Bonnot, Freese brick machines; largest International hollow ware machine, never used; 10, 14, 16 ft. pug mills; Freese, Brewer, Steele automatic cutters; 2AT, 6AT, 7 AT Bensing tile cutters; Climax crusher; Fate clay feeder; 6,000 galvanized pallets, 10x34; 22,000 A-1 white pine pallets, 10x34; 48 in. by 50 ft. rotary dryer; tailing crusher; Penfield 24 in. combined disintegrator and crusher; No. 5 A-C disintegrator; Frost dry pan; 2 and 6 mold Boyd dry presses; new Potts sander; dryer fans; steam engines, 30 to 100 H. P.; 500 H. P. Corliss; 200 H. P. twin Chandler and Taylor; boilers; pipe rack dryers; fully equipped brick yards. Write for prices on brick molds, barrows, trucks, etc.

FRANK McCLELLAN,  
14624 Ardenall Ave.,  
7 tf d East Cleveland, O.



Classified Advertisements.

WANTED.

A position the first of the year as superintendent of brick plant, manufacturing common building brick. Twenty years' experience. Reference from present employer. Address,

W. B.,  
91 d Care Clay-Worker.

FOR SALE.

Fate Imperial combined machine for brick, tile and hollow ware. Now running in Northeastern Indiana. Purchased four years ago. In excellent condition. Price for quick sale \$300.00, including tile dies. Address,

MACHINE,  
92 d Care Clay-Worker.

FOR SALE.

One two-mold Fernholtz dry press, complete with several sets of extra ornamental molds and dies, rolls, elevator, mixer, line shafting, pulleys, etc. Complete equipment for entire 10,000 capacity plant.

Also, one two-mold Raymond repress complete with extra set of molds and dies for pavers. New, never used.

One Raymond 777 auger machine, having made only 800,000 brick. Extra set of augers and knives for same. New.

SUPERIOR PRESS BRICK CO.,  
3190 S. Kingshighway,  
8 tf d St. Louis, Mo.

FOR THE UPDRAFT KILN.

GLECKLER'S SYSTEM of protecting arches will positively produce finest red face brick in your arch heads, in place of those melted and cracked brick, which are sure to be in the unprotected arch.

WE EXPECT 100 PER CENT. RED FACE BRICK in every arch. This system is for GAS and OIL in the scove kiln or coal and wood in the furnace head wall.

Sold on six months' trial; buy it after you find it O.K.

Patent applied for.  
FRED GLECKLER,  
8 tf d Oak Harbor, Ohio.

FOR SALE.

Two new Elwell Parker type "EG" elevating platform electric trucks; 4 American 9 ft. dry pans; 2 new steel leg bucket elevators for same; 1 Neway-go clay screen; 1 70 KW. 250 volt D. C. generator; 2 new 40 H. P. A. C. motors; 3 pit cars; 1 jaw crusher; 1 new 20 K. W. 125 volt D. C. generator; 100 ft. heavy line shafting with all fittings. If interested in any item, write for further information to

BRADFORD BRICK & TILE CO.,  
2 Main St.,  
7 tf d Bradford, Pa.

FOR SALE.

One hundred and ten double deck dryer cars, in god condition. Address,  
CARS,  
9 tf d Care Clay-Worker.

**RICHARDSON**

For RAILS

Ready for immediate shipment; New and Relaying Rails, Spikes and Bolts; Frogs and Switches. Call, telephone, write or wire.

Richardson means Service.

Richardson  
& Co., Inc.  
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Pittsburgh, Pa.

WANTED  
DINKEY  
LOCOMOTIVES

Will purchase several seven to fourteen ton engines in any condition which will justify our rebuilding and repairing same. VULCAN and DAVENPORT preferred.

The Pittsburg Boiler &  
Engine Co.  
Pittsburg, Kan.

1 tf d

WELL DRILL FOR SALE.

One new (never used) No. 25 New Armstrong blast hole drill, without power, but adapted to either motor, kerosene or gasoline engine drive. Address,

SILICON PRODUCTS CO.,  
Rm. 18 Ridgway National Bank Bldg.  
93 cm Ridgway, Pa.

MACHINERY FOR SALE.

We have located in the South: One 30,000 capacity stiff mud machine. One 9-ft. iron frame dry pan with an extra set of screen plates.

One hundred single deck dryer cars with about 8 ton of rail.

One side cut automatic table and one Steele end cut automatic table.

Will make low price to move outfit. Address,  
91 d A. SMITH,  
Care Clay-Worker.

PLENTY OF IT  
TILE AND BRICK CLAY

RIGHT IN THE WORLD'S  
LARGEST GAS FIELD.

A-1 RAIL FACILITIES.

BIG TRADE TERRITORY.

INVESTIGATE NOW.

WRITE TO  
ARKANSAS AND LOUISIANA  
MISSOURI RAILWAY CO.  
MONROE, LOUISIANA

92 dm



The Parker-Russell  
Mining and Manufacturing Co.  
ST. LOUIS, U. S. A.

Fire Clay and Silica Products of Quality for Service---  
Especially for Kiln Construction.



## MANGANESE

BEST QUALITY MANGANESE, CAREFULLY AND UNIFORMLY PREPARED FOR BRICKMAKING. WRITE US FOR SAMPLES AND PRICES.

NATIONAL PAINT AND MANGANESE CO.  
LYNCHBURG, VA.

MINERS AND GRINDERS.

Brick manufacturers who have anything in the way of second-hand machinery or appliances, will find a ready market for same through a card in our Classified Advertisements. Superintendents, yard foremen, burners, etc., desiring to make a change, will do well to run a Wanted ad in our classified department. Clay-Worker ads bring results.

## Anchor Brand Colors

For Mortar Cement and Brick.

BROWN, BLACK, RED AND BUFF.

Strongest and Most Durable.

Manufactured by

C. K. WILLIAMS & CO.

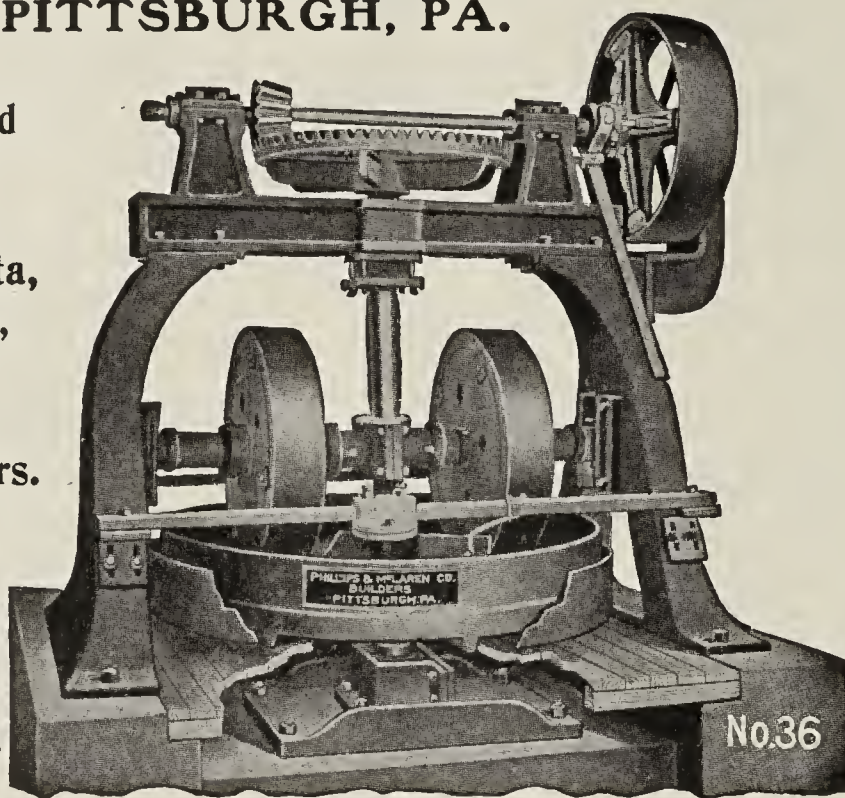
EASTON, PA., U. S. A.

Correspondence solicited.

## PHILLIPS & McLAREN CO

PITTSBURGH, PA.

Builders of  
Pittsburgh Standard  
Dry and Wet  
Grinding Pans  
for Brick, Terra Cotta,  
Sand, Cement, Ore,  
Refractories, etc.  
Also  
Rock and Ore Crushers.



When writing for prices state kind of Clay or Material to be ground and capacity desired.

Eastern Sales Office  
Stephen Girard Bldg.  
Philadelphia, Pa.

## Chattanooga Paint Co.,

Chattanooga, Tenn.

Manufacturers of

Red Oxides for Brick-  
makers' Use.

ECLIPSE MORTAR  
COLORS,

Red, Brown, Buff, Black.

# R

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Cleveland  
Boston  
Philadelphia  
Trenton  
Pittsburgh  
New Orleans  
Kansas City  
San Francisco

Authorities recommend; Builders and Owners Desire

## SCUM PROOF PRODUCTS

These can be procured by the use of

## R & H PRECIPITATED CARBONATE BARYTES

The Roessler & Hasslacher Chemical Co.

New York, N. Y.

"America's Leading Ceramic Material House."

# H

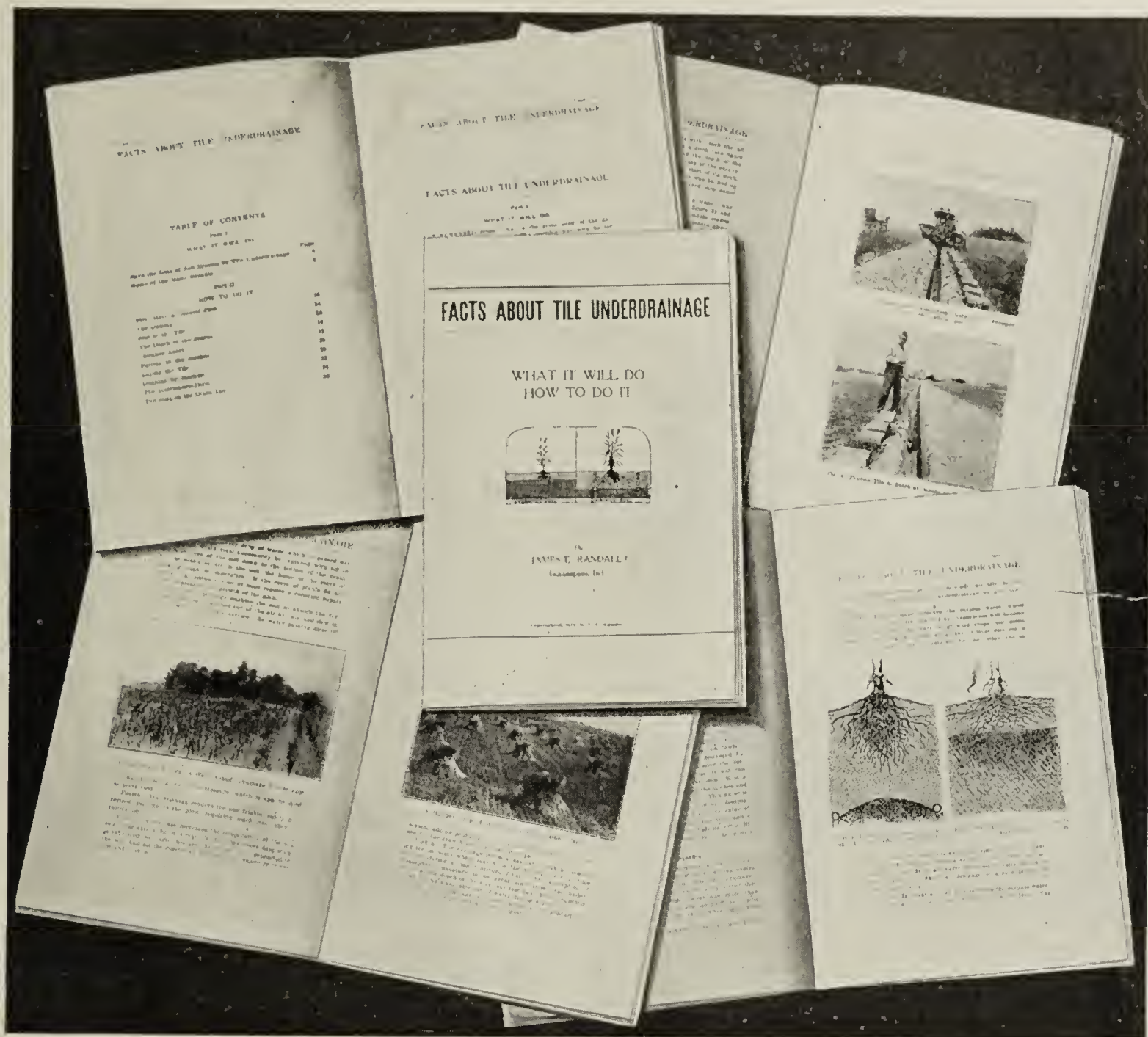
### Works

Perth Amboy,  
N. J.  
Niagara Falls,  
N. Y.  
St. Albans,  
W. Va.  
Los Angeles,  
Cal.

# C

# C





# FACTS ABOUT TILE UNDERDRAINAGE

WHAT IT WILL DO. HOW TO DO IT.

By JAMES E. RANDALL.

This is the most comprehensive pamphlet ever published on the subject, giving the many benefits and all the details relative to the installation of drain tile systems. It is printed in convenient form for mailing. A liberal distribution in your territory among prospective customers will greatly increase the demand for your product and at the same time give the farmers just what they have been looking for in regard to ways and means of putting in the drains.

Price per 100  
\$7.00

per 500  
\$27.50

per 1000  
\$50.00

per 2000  
\$80.00

Your firm name and address will be printed on front or back cover for additional charge of 50 cents per 100 if 500 or more are ordered.

Published by T. A. Randall & Co., Indianapolis, Ind.



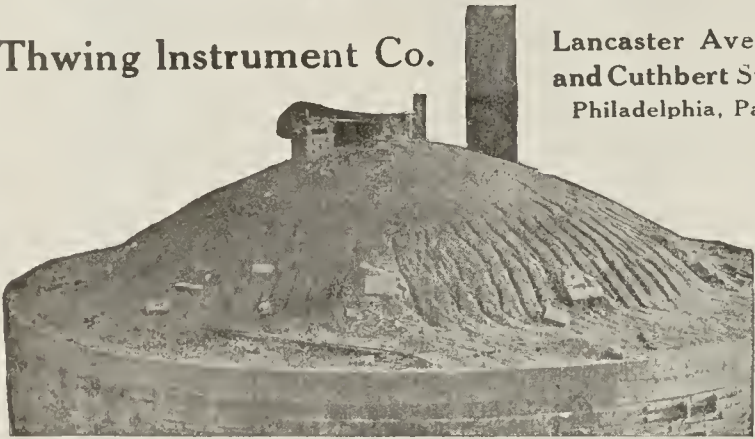
## Make your kilns turn out uniformly good work.

A reputation for consistently high grade product can be assured only by standardizing your operations. Thwing Pyrometers give you the information you must have to standardize your kiln burning operations—instant and accurate temperature determinations, easy to make, and for permanent record if desired. A Thwing Pyrometer installation is sure to save its cost many times over in reduced waste of fuel, increased saving of time, and assurance of more uniform and better quality of product. Write for full information. 110

# THWING PYROMETERS

Thwing Instrument Co.

Lancaster Ave.  
and Cuthbert St.  
Philadelphia, Pa



With Chase Flexible and Reversible Bearing  
and Folding Deck.

Single, Double and Triple Deck Dryer Cars,  
Transfer and Dump Cars, Turntables,  
Switches and Trackage.

The Chase Foundry & Mfg. Co., Columbus, O.

Written for THE CLAY-WORKER.

## BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.



BRICK AND BUILDING men in Evansville and other towns in southern Indiana are enjoying a good business at the present time and it is expected that September will prove to be a better month for building than either July or August, although the building operations held up very well during those two months. The Standard Brick Manufacturing Company at Evansville is having a great run on their products, both of common brick and Rugby. Orders do not cease to come in even at what might be termed the last end of the building season. As a consequence the company is opening one of their brick yards that has been closed for the past three months in order to meet the present demand of the trade. Among the contracts that they have been awarded them is the brick for five churches covering as many denominations from New Orleans to Evansville. The contracts call for many thousand bricks and the Standard Company is more crowded now than it has been for the past several years. "We are sure in the middle of a great demand for brick and we are in position to meet the contracts we sign up," said John Andres, secretary and treasurer of the Standard Company, the other day. Several new brick homes in Evansville have been contracted for with this company recently, one of them to be built for Eugene Nolan, automobile dealer.

Other brick manufacturing concerns in Evansville are feeling the full swing of the building boom in that city. Prices in Evansville were lowered early in the season 30 per cent and manufacturers claim that the brick prices in Evansville now are from \$3 to \$6 per thousand lower than the prices that prevail in Fort Wayne, Terre Haute, South Bend, Indianapolis and several other Indiana cities. Something like 100 residences have been built or started in Evansville since last spring, and it is believed that fully 50 more will be built between now and the coming of winter weather. Gas burning outfits are now being used in the First Avenue and West Heights plants of the Standard Company at Evansville. Farm drain tiling, made at the plant of the company on the Illinois Central railroad south of Evansville by the Standard Company, is in big demand, according to Secretary Andres. Heavy fall and winter orders are expected for this product. The Tri-State Motor Company is erecting a new garage at the corner of Locust and First streets at Evansville that will cost in the neighborhood of \$100,000. Work is in progress on the new Cadick Theatre at the corner of Sycamore and Third streets. The structure will cost in the neighborhood of one million dollars and the structure will be ready for occupancy by the close of the present year.

Henry C. Kleymeyer, president of the Standard Brick Manufacturing Company and president of the Chamber of Commerce of Evansville, made one of the addresses welcoming the delegates to the national convention of the National Association of Stationary Engineers, which was held in Evansville September 12 to 16.

Clarence E. Schutz, president of the Best Brick Manufacturing Company at Evansville, and his wife are expected to return home some time in September from Connecticut, where they have been spending the summer at one of the resorts of that state.

The Inman Tile Company of Hartford City, Ind., a few days ago announced a reduction of from 10 to 20 per cent in the price of tile, and it is expected that business will be stimulated some by the reduction.

Al Landgrebe of the Huntingburg Pressed Brick Company has been appointed on a committee by the Chamber of Com-



merce of that city to nominate three tickets for that association to be voted upon at a later date.

The various potteries at Evansville have been operated on fairly good time during the past month or two, and the outlook for fall and winter business is said to be very good by the manufacturers.

Vanderburg county, in which the city of Evansville is located, is entering upon an extensive road-building campaign, and it is expected that brick will be used in the improvement of some of the roads. It is pointed out by many people that no material is as good as brick, and several roads in the southern end of the state and many streets in Evansville constructed of brick many years ago, it is pointed out, are as good as when first laid. Morganfield, Ky., a few miles south of Evansville, is getting ready to build some brick streets this fall and winter. The city council at Morganfield recently let the contract for the building of some brick streets to the Brown Construction Company of Henderson, Ky. Work has started and considerable money will be spent by the city of Morganfield in street building this year and next year.

Tile manufacturers in southern Indiana report that in spite of the so-called industrial depression many farmers have been in the market for drain tile this summer and fall, and it is expected that this line of the business will continue good for some time to come. Prices on tile are some cheaper than those that prevailed last year. No further reduction in price is looked for this year, as manufacturers are still forced to pay high wages to workmen and coal and other things that they are forced to buy remain high.

General business conditions in Evansville and other southern Indiana cities are said to be some better than they were several months ago, and it is said that the number of unemployed men has grown less recently. The demand for skilled workmen in most of the cities of that section is very good and it is said that most of the men out of work belong to the unskilled class.

A HOOSIER.

#### HOOVERIZING WASTE.

Most of us have probably read about the Committee of Architects and Engineers named by Mr. Herbert Hoover to conduct a survey study of waste in the building trades and in industries and business with a view to pointing the way to some reforms. This committee was appointed before Mr. Hoover entered the President's cabinet and there is evidence that it has been actively at work because we have been hearing about it in various ways.

For one thing it is pointed out that there is woeful waste in building industries which runs up to millions of dollars a year and can be traced to various sources, including that of duplication of estimates, waste of material, waste of energy, unnecessary work and so on.

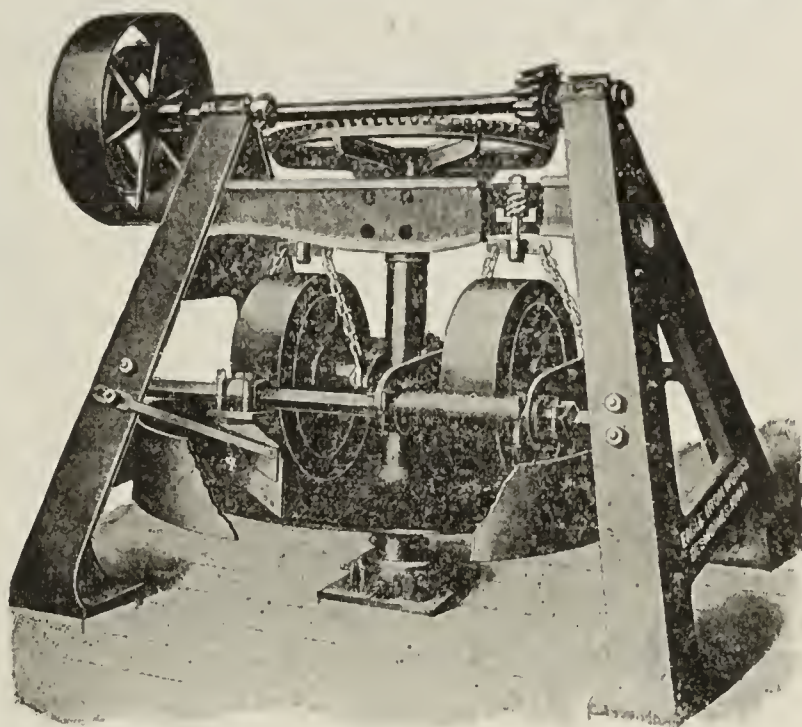
Some are telling us that the waste in building trades of time, energy and material is appalling and that if we can materially reduce this it will contribute to lowering cost as well as insure better chances for profit. Also in the rounds we are being reminded that there is waste of energy, material and time in industries, and in business institutions also.

One order of the day which has already begun and should continue active for some time is that of Hooverizing on waste, of discovering where the waste is, charting it carefully then bringing into play practical ways and means for reducing waste to a minimum. No matter whether it is waste in estimating, waste time in loafing, waste energy, or waste material, the time has come to seek for lower cost and better profits by Hooverizing on waste.

A check up of reports on the Lincoln Highway shows interesting progress but the returns are disappointing in the quantity of brick being used for surfacing, for during 1920, of 542 miles completed, only about seven miles were of brick.

## Independent and Suspended Mullers

the distinguishing  
feature of our **DRY PANS**



Other valuable features which our  
catalogue fully describes.

**EAGLE IRON WORKS**  
Des Moines, Iowa

DO YOU WANT

**Any Thing Used On  
A Brickyard or a  
Clay Plant.**

We Handle it.  
Ask Us.

**CHICAGO BRICK MACHINERY CO.**

2825 W. Harrison St.

Chicago Ill.



# MARTINIQUE



THE famous name Martinique is restored to this great New York hotel. But it is a *new* Martinique—new in decoration, in furnishing and in management. The charges are genuinely moderate.

Pleasant rooms as low as \$2.50. Popular club breakfasts from 45 cents to \$1.00. Substantial luncheons and dinners at \$1.25 and \$1.75 and a well prepared and quickly served selection of satisfying dishes a la carte at new prices. *Affiliated with Hotel McAlpin.*

*Frank E. Jago, Resident Manager*



*32nd Street and Broadway*

Written for THE CLAY-WORKER.

## LOUISVILLE BRICK NEWS.

BUILDING OPERATIONS have been moving along very nicely in Louisville and brick and tile people as a rule are fairly busy. Not only has there been building, but there has been quite a percentage of home building, the record for August being an unusually good one, and in new homes there is a pleasing percentage of brick being used. Most of the local brick plants are now running to capacity and there is an air of busy enthusiasm in the industry which it is encouraging to see. Also there is a disposition to exploit the wares of the industry that is cheering. This has manifested itself in some splendid displays at the Kentucky State Fair the week of September 12 to 17. This year a new merchants' and manufacturers' building was erected and in it we had quite a big exposition, including a number of splendid displays of brick and hollow building tile and sewer pipe. Among the local people making displays were the Coral Ridge Clay Products Co., Southern Brick & Tile, P. Bannon Pipe Co., W. E. Whaley and the R. B. Tyler Co., all in the new merchants' and manufacturers' building. Out on the ground there is a Natco Exhibit and the local agent for this concern here is Leo Parsons with the R. C. Tway Coal Co.

The Southern Brick and Tile Co., and the Coral Ridge Clay Products Co. took space adjoining each other and made laid up wall and panel displays of local products, including brick and hollow building tile and drain tile. The R. B. Tyler Co., which handles an extensive line of brick and building material, made a comprehensive display of its line of products, and W. E. Whaley, brick distributor here for outside plants shipping into this territory, made a splendid showing with both panel and wall display and sample displays in a wide variety of brick and also some hollow building tile features. Taken all together the clay products people have come to the front nicely in Louisville and have made a good showing during fair week. Also the exhibits attracted attention and led to many inquiries as to the price on brick and so on, demonstrating that it pays to advertise and that display advertising is effective.

Inquiry among local manufacturers and distributors brings the cheerful information that all of them are fairly busy. The local plants are running full time and are shipping freely and the dealers here handling outside products also report a good run of business. Taking it all together the news in the clay products industry here is very cheerful and don't sound a bit like hard times or slow business.

## SAND LIME BRICK IN 1920.

THE SAND LIME BRICK industry operated under a handicap of a shortage of help and transportation difficulties in 1920, and it did very well considering these difficulties. The production in 1920 was 169,760,000 brick, an increase of 16 per cent over the 1919 production. The total value of the 1920 sand lime brick products is given by the U. S. Geological Survey as \$2,490,283 which is a peak period in sand lime brick values so far. The value was greater than in 1913, but the quantity of production was 10 per cent lower.

Nineteen states reported sand lime brick production, with Michigan which has been the leading state for several years still in the lead with 23 per cent of the production. Minnesota was the second state, followed by Wisconsin, Florida and New York in the order named. These five states produced about 64 per cent of the total output.

The number of operators reporting sales of sand lime brick in 1920 was 37, the smallest number since 1902, except in 1919 when the number was only 35. Practically all of the products are marketed as common brick and the average price in 1920 was \$14.61 per thousand.



# BURNING CLAY WARES

By ELLIS LOVEJOY.

The Most Valuable Book  
In All Our Ceramic  
Literature

Devoted:

To every angle  
of burning  
and kiln  
construction.

Details:

Every phase in  
burning processes  
for various  
clay products.

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Every kiln, giving  
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Recommended:

By Leading Clay  
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Contains:

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Complete

Equalization and  
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Price \$5.00

Published by

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211 Hudson St. Indianapolis, Ind.

**BEST BOOK EVER PUBLISHED ON  
SUBJECT OF BURNING.**



Written for THE CLAY-WORKER.

## MILWAUKEE AND WISCONSIN BRICK AND CLAY NEWS.



MORE OPTIMISTIC feeling is found in the clay industry of this territory regarding conditions and prospects, both from the standpoint of the manufacturer and the seller of clay products. Due to the general business depression throughout the country, the clay industry naturally did not enjoy the great volume of business which featured the war period. However, generally in Wisconsin conditions have not been so unfavorable as is reported from some districts of the country. In Milwaukee and several other larger state cities, building and construction activities have been going on in good volume, showing a gain over the corresponding period in 1920.

For the first eight months of 1921 the Milwaukee building record is \$2,000,000 in excess of the figures for the same period last year. The statement issued by the building inspector's office shows that 20,966 permits, aggregating \$15,835,330, were issued for the first eight months this year. This compares with 15,855 permits, aggregating \$13,856,781, for the same period in 1920. The month of August was nearly \$1,000,000 ahead of the same month in 1920. The record shows 3,240 permits issued for \$2,142,566, as compared with 1,940 permits for \$1,183,663 in August, 1920.

The question of solving the unemployment situation as well as relieving the housing shortage has caused many Badger State cities to encourage building of private and public buildings. Milwaukee has its Garden Homes Co., municipally and civically supported to erect homes. The

plant has been secured and plans are now about ready for starting the first unit of homes. Bids are being taken on materials and actual construction work will be undertaken within a few weeks. At Racine, Wis., a home-building organization with \$200,000 capital is being organized to provide work for building trades. Dealers in brick and other building materials have offered to contribute by providing materials at a small profit to cover costs. Business men are donating their time to the management of the organization. In several other cities some plan or other is being worked out and in most every instance building revival is receiving consideration to solve the question of unemployment. Not only home building, but public schools, municipal buildings, churches, street paving, sewerage systems and other activities requiring clay and other building products are being pushed.

Selling brick to the public as the logical building material because of its advantages in price, final cost and other saving items, has borne good results. The average home or duplex today in this vicinity shows a greater use of brick in one way or another, for the reason that it is more adaptable for many parts of a building besides being reasonably priced. Although many other building materials have shown a price readjustment, brick prices are more nearly normal than the average item. Considering the high freight rates, the price of coal or other fuel and the wages for labor, it is hardly possible for brick prices to show any further decline until some one of the cost of production items comes down. In this state a price level of from \$11 to \$18 a thousand at yards is maintained, with an average price for common brick of about \$14.50 today as compared to \$20 during the war.

According to recent reports, at a stockholders meeting of the Veneer Clay Products Co., held at Vesper, Wis., it was voted to take steps toward dissolving the corporation. This in effect means that the brick yards taken over some



## WHICH METHOD SHALL YOU USE?

### ARE YOU OPEN TO CONVICTION?

Do you believe Progress has been made in handling various materials?  
How do you handle brick?

What do you think of this? One two-ton truck delivering 10,000 brick over country roads, a round trip distance of  $9\frac{1}{2}$  miles per day?

The "FONTAINE DEMOUNTABLE TRUCK BODIES" handle brick or similar material without danger of breaking or chipping and yet cut cost of labor in half and keep the truck always on the move. Why not enquire?

**The American Truck Body Co., Inc., Martinsville, Va.**



time ago by the Vesper Clay Products Company will revert back to the former owners, the Vesper Brick & Tile Co.

The Universal Tile Co. has completed organization and is now incorporated with \$15,00 capital stock, consisting of 150 shares of \$100 par value stock. Interested in the enterprise and listed as incorporators are Eugene Cafmeyer, I. Hansen and Arthur Cafmeyer.

Attacking the Milwaukee zoning ordinance as unconstitutional, the Burnham Bros. Brick Co. is seeking an injunction restraining the City of Milwaukee and Building Inspector Harper from enforcing its provisions. The company claims the measure discriminates against them. The lands of the company located at Clement and Kinnickinnic avenues are nearly exhausted, the complaint stated, and will be useless for brick making purposes within a few years. However, they are worth \$200,000 as manufacturing sites. The use of the land, under the terms of the zoning ordinance is forbidden for manufacturing purposes except the present use, the manufacture of brick.

The shortage of bricklayer apprentices which was acute during the war period, is being rapidly overcome, according to statements of building men here. The low wage and short working period were no attraction during that time, but with normal conditions returning more boys are willing to go into apprenticeship. At the last convention of the Wisconsin Clay Manufacturers' Association last year, the association urged training in trades schools and more liberal provisions for apprentices in bricklaying trades. A. BADGER.

Set up some comparative price figures in your community that will convince the public that the brick wall is the wall to build.

#### CLAY MINED AND SOLD.

IN ADDITION to the clay garnered in connection with clayworking industries themselves we are developing quite an extensive business in the mining and marketing of clay of various kinds. The preliminary figures of the U. S. Geological Survey show that during 1920 we mined and marketed 3,159,000 tons of clay, valued at \$12,094,000, which makes an average price of \$3.83 a ton.

When we think of marketing a product as good and useful as clay for \$3.83 a ton (which is perhaps the highest average price obtained because the figures are for the peak period year in values) we begin to realize that there is no industry in which people get such a lot of good material for a so small amount money. Also it is enough to impress us that the clayworkers themselves have never attached as much value as they should to the raw material which goes into their products.

The largest trade in clay was done in fire clay, of which there was 2,400,000 tons mined and sold during 1920. It was sold for an average price of \$3.22 a ton. The highest average price was brought by ball clay of which we mined and marketed 145,000 tons, at an average price of \$9.24. The kaolin production was larger, being 264,000 tons, with an average price of \$9.03, making a total value for the year of \$2,385,000. Other items in clay mined and sold included slip clay and special stoneware clay and miscellaneous clays.

Of the clay mined we exported 120,160 tons, valued at \$1,168,399. During the same period we imported clay to a total value of \$4,008,669. From the present trend indications are that in the course of a few years more we will be exporting enough clay to more than balance our imports, and meantime will develop our resources so that we will have but little occasion to import clays to supply our needs.

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### SAVES

\$9 to \$15 per day

\$54 to \$90 per week

\$215 to \$360 per month

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Pat. May 2d, 1911

## Marinette Iron Works

Chas. J. Anderson & Son, Proprietors.

Marinette, Wisconsin



Written for THE CLAY-WORKER.

## CINCINNATI BRICK AND BUILDING NEWS.



WHILE IT IS TRUE that the summer is almost at an end, and the fall season within reach, the building prospects are making a very creditable showing. Residence work is not as active as could be hoped for, but the reasons for this somewhat inactive condition are well known, and the year seems likely to pass without much real progress in the latter branch of the building industry. Other kinds of building, however, appear to be showing something akin to a return of former activity, and this helps to keep the various operators more active.

The need for homes in this section is still very keen. It will continue to be so as long as the number of homes is short of the urgent demand that has been manifest for several years. But the people have found some method of existing, and will continue to make the most of a bad situation until there has come about more favorable conditions. There have been some large projects given an impetus, and the situation appears to offer a more hopeful aspect in this way, though of course there will be a number of these held up for the time being at least. With prices of materials somewhat lower, and the future in this way helpful, there is something tangible to be counted on within a reasonable time. Labor seems to be the one real obstacle to the resumption of activity in the building field, and until this has been made more promising there is not very much to be counted on that will really make the conditions more favorable.

That some progress has been made in the past month

can be noted from the report of the building commissioner for the month of August. Comparatively speaking there has been a very pleasing increase noted over the same month last year. The total number of permits issued in the past month amounted to 1,412, with a total cost for the improvements amounting to \$1,269,805, while the same month two years ago, there were 1,253 permits issued, totalling \$1,208,485, while the month of August, 1920, shows 1,171 permits, costing \$648,995. So this makes a very creditable showing. During the first eight months of the present year there were 11,546 permits issued, totaling \$11,410,470.

The same condition prevails in Covington, Ky., where the report shows that during the month of August there were permits totaling \$273,540, of which amount \$201,900 was for brick buildings. This is the best showing that has been made in that city since 1914.

Within a very short time the Building Construction Employers' Association and the Builders' Exchange will be merged into one organization, known as the Associated Building Industries. David Devore will be president. The headquarters of the association will be at the old quarters of the Builders' Exchange, 614 Race street. In order that all would run smoothly it was decided that a new president be selected to hold office until the regular election in January, so the choice fell to Mr. Devore. In the meantime the organization is completing its plans for the arbitration pertaining to a reduction in wages or maintaining the present scale. The matter is in the hands of Rabbi Philip Davidson, and it is hoped that the settlement can be made by the middle of October.

Appeal from the decree of foreclosure of a mortgage given to secure a bond issue of \$53,000 was filed in the United States circuit court of appeals some days ago by the Den-

## PERSONAL BUT NOT CONFIDENTIAL

FROM: CHARLES ENGELHARD INC.  
TO: THE MAN ABOUT TO BUY PYROMETERS  
SUBJECT: INFORMATION ABOUT PYROMETERS.

- (1) A prospect recently complimented one of our salesmen on the complete information he furnished about our pyrometers.
- (2) If you are looking for exact information and want to find out how and why an Engelhard Pyrometer will give you extra service call in one of our men.
- (3) They are instructed to lay all their cards on the table and to recommend the most economical outfit that will be adequate for the work you want it to do. Such instructions are superfluous for they are all the type of man who would do this anyway.
- (4) We urge thorough investigation on your part. For many years we have noticed that the more a prospect investigates the more he becomes convinced that  
**ENGELHARD PYROMETERS ARE GOOD  
PYROMETERS TO STANDARDIZE ON.**
- (5) You are busy and so are our men. Write this office for an appointment with one of them.

Yours truly,

**CHARLES ENGELHARD INC.**

30 Church Street.

New York City.



nison Clay Co., Dennison, O., et al. The decree was entered by United States District Judge D. C. Westenhaver, Cleveland, in the suit of the Chicago Trust Co., et al., Trustees. The decree directed the sale of the property covered by the mortgage and awarded judgment to the bondholders for \$63,031.39, this being the amount of the principal and interest found to be due on the outstanding bonds.

According to Donald W. Caven, civil engineer of this city, there is about \$2,000,000 in home construction, mostly by individuals, being held up in the Cincinnati market at present awaiting the settlement of the labor question and the price of materials.

Plans are under way for the building of a new home for the members of Cincinnati Council No. 373, Knights of Columbus, to be builded at 14-16-18 East Ninth street. The cost is estimated at from \$500,000 to \$750,000. It will have a frontage of ten stories, with the upper stories containing a club hotel with ninety rooms for members of the club. The west section will be four stories high, 75x90 feet, with large auditorium and a roof-garden tennis court. Work will hardly be started before spring.

The Ashland National Bank of Ashland, Ky., and the Masonic home of that city, are to build new structures of unusual size. The Masons will construct a \$250,000 building, plans now being made for the same. The bank will be eleven stories high, modern in all respects, plans for which are also being made by architects.

There has been a very flattering report made by the Queen City Shale Brick Co., to the effect that the demand for both building and sewer brick has been quite active in the past month or so. There has been ample to do to keep the plant in operation, and the output of the same has been sold, with a very good outlook at this time. The

demand for sewer brick has been fine and this has helped out to a considerable degree. While the call for building brick has been less keen, still the fact that there are a larger number of factory and kindred buildings being erected has had a tendency to increase the call for the latter kind. The company is now building a coal chute, and will sell coal during the winter months.

The Purcell Brick Co. has been fortunate in obtaining some very nice orders for schools, and some other large structures, such as apartments and large houses. The indications are that there will be at least a fair call for the remainder of the year, but there should be a much better demand in the coming year when the building industry will show a better trend altogether.

There has been little of real interest found with the Cincinnati Clay Products and Supply Co., and the call for both face and building brick has been somewhat slow. The people are not in a mood to build, was the report here, and the situation was therefore less keen than it should be. With the settlement of the wage and other questions there should come about a larger demand, but this will hardly be this year.

The Builders Material Co. note that there has been little to change the conditions in the past month in so far as the call for brick and other clay materials are concerned. There is a little activity, but the situation is not such as to make for a much better demand for this season of the year.

Little of real news interest has been noted by the F. E. Grand Brick Co., and the orders are not overly plentiful at this time. The year does not offer much that will indicate anything like a real business and there is no great change counted on, as the season is for the greater part at an end.

CINCY.

## A New Brick or Tile Plant?

Brick and tile manufacturers are finding out that their plants will have to be run on a very different basis from that of the past. It isn't merely one or two months run that tells the story, but the year's books; and there has to be much less unthinking handling of materials and more intelligent operation in most yards, for the business to show a satisfactory profit.

Because of our experience as engineers, we know how a yard should be laid out to utilize to the utmost the natural advantages and to make the best of natural handicaps. We know how to build and how to equip and *how to manage* a brick or tile plant so that it will make money on the capital invested.

A call from one of our brick engineers to talk over the matter of your new plant, or improvements in your present one, will at least be interesting to you, and may prove of much value. We should be glad to make such a call by appointment on request.

### Frank D. Chase, Inc.

ENGINEERS — CHICAGO

*Location, Layout, Design and Management of Industrial Plants*

CHICAGO, 645 N. Michigan Avenue

ST. LOUIS, Railway Exchange Bldg.

Mention THE CLAY-WORKER.



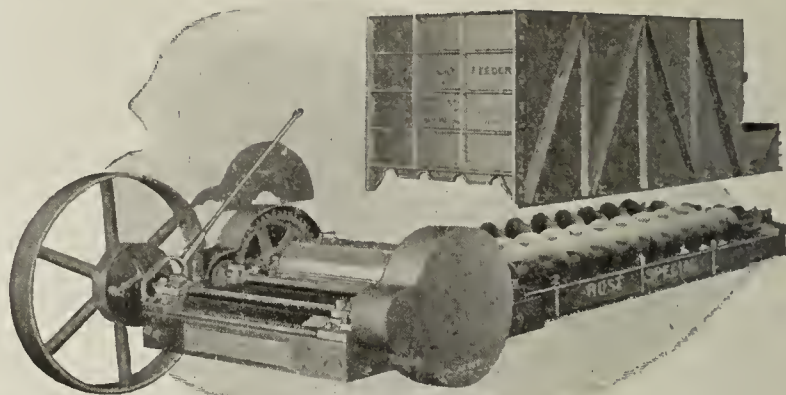


PLANT DESIGN  
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CONTROL OF OPERATIONS  
Means Much to  
The Success of a Manufacturer.

Consultation solicited.

TRAUTWEIN DRYER  
AND  
ENGINEERING CO.

Clay Works Engineers  
5055 South State St.  
Chicago, Ill.



## You Must Cut Your Costs---But How?

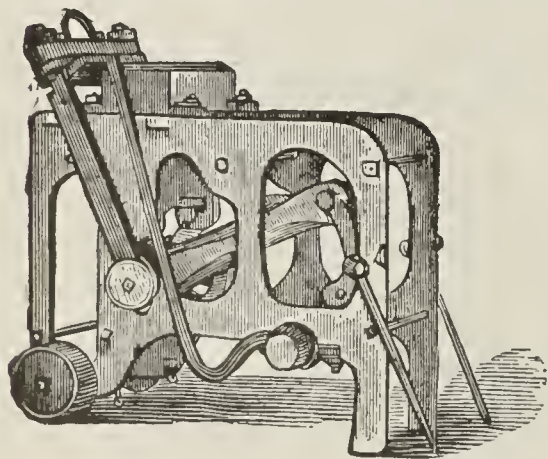
Use the RUST SPECIAL FEEDER MIXER. It will save the labor of two or three men and raise the efficiency of your plant in general. It keeps your offbearers busy at all times and the repairs and upkeep are too low to be figured.

Write today for information concerning all MARION EQUIPMENT for clay plants. No obligation whatever.

Marion Machine, Foundry  
and Supply Co.

Box 156

Marion, Indiana

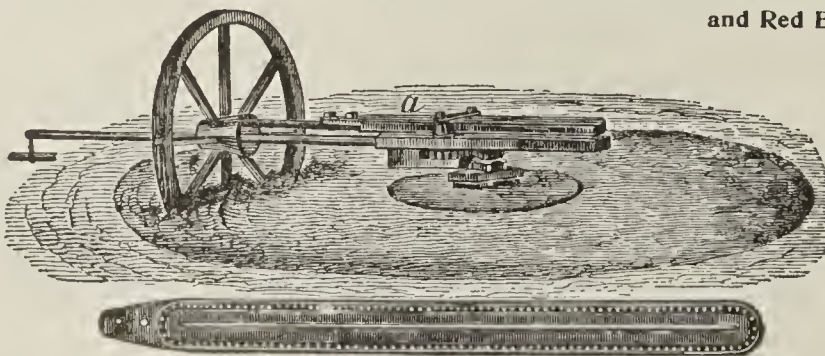


RED BRICK PRESS.

## Philadelphia Brick Machine Works.

Fire and Red Brick Presses All Sizes. Machinists and Engineers.

Manufacturer of All Kinds of Machinery Used in the Manufacture of Fire and Red Brick.



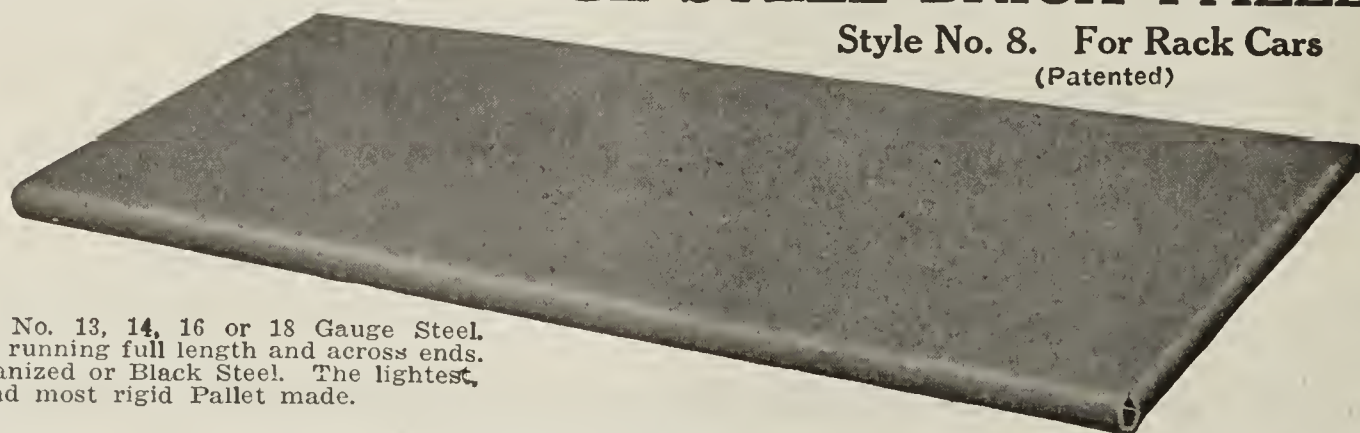
These Tempering Machines can be driven either by Steam or Horse Power. The latest improvement requires less power to run than the old style Steam Gearing, and fitted up 10 per cent. cheaper.

Send for Circular and Price List.

GEORGE CARNELL, 1819, 1821 and 1823 Germantown Ave. and Fifth St., PHILADELPHIA, PA.

## "OHIO" ROLLED EDGE STEEL BRICK PALLET

Style No. 8. For Rack Cars  
(Patented)



Made from No. 13, 14, 16 or 18 Gauge Steel. 5/8-inch Roll running full length and across ends. Either Galvanized or Black Steel. The lightest, strongest and most rigid Pallet made.

THE OHIO GALVANIZING AND MANUFACTURING CO., Niles, Ohio



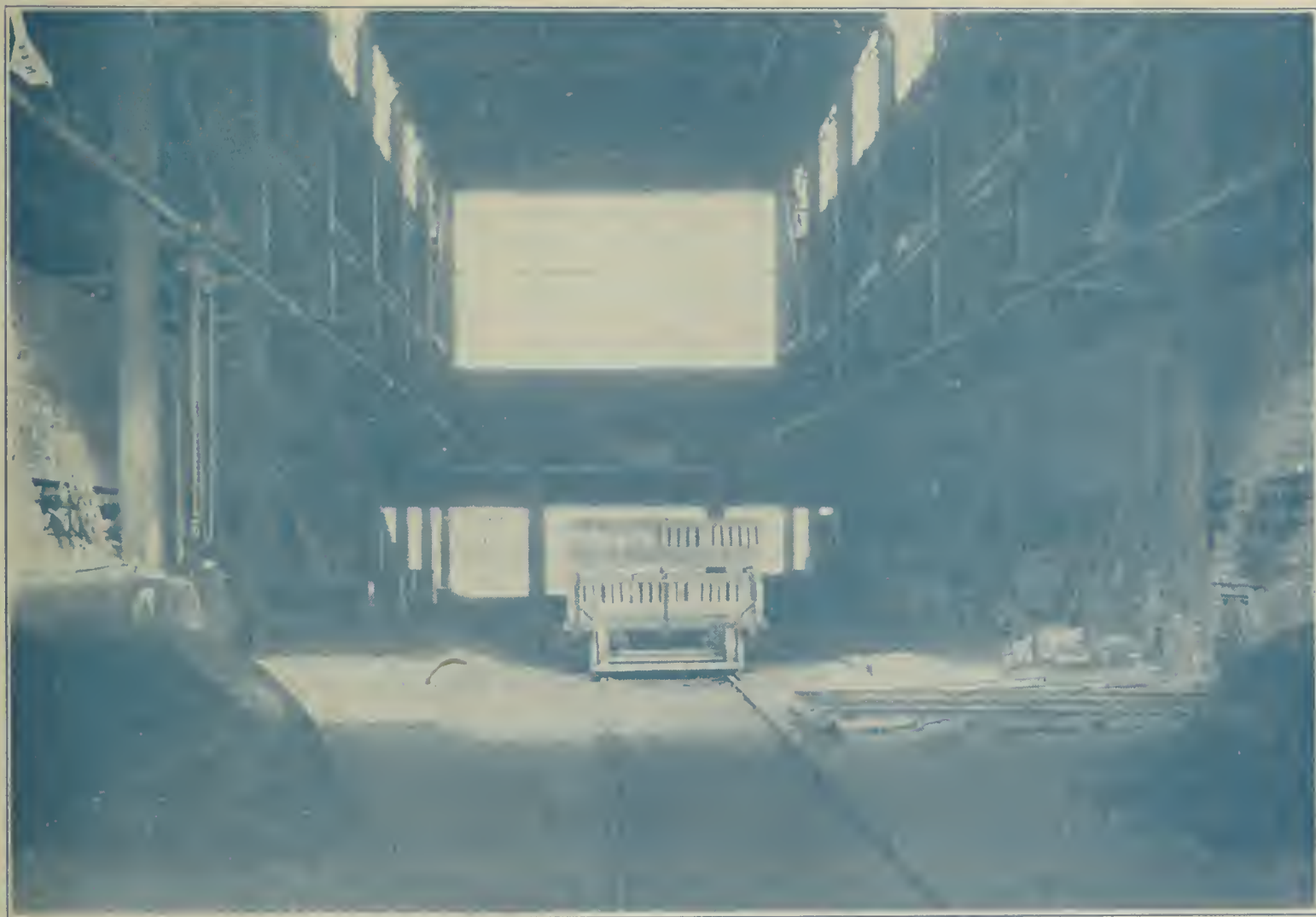
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Ceramics.

OCTOBER, 1921

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# THE CLAY-WORKER



A MODERN BRICK PLANT: In the Kiln Shed of the New Plant of the Alliance Brick Co. (See page 335.)

Published Monthly by  
**T.A. RANDALL & CO.**  
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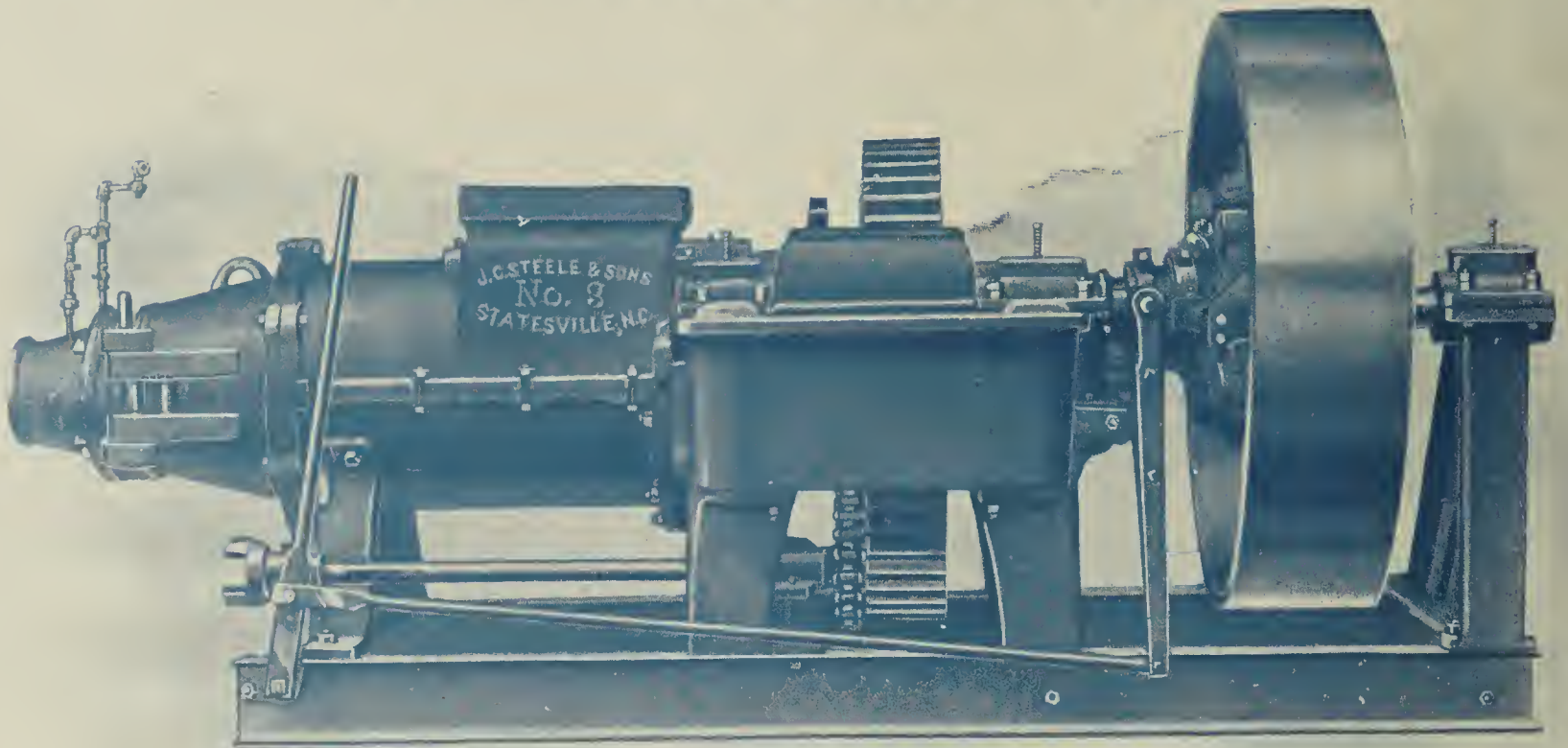
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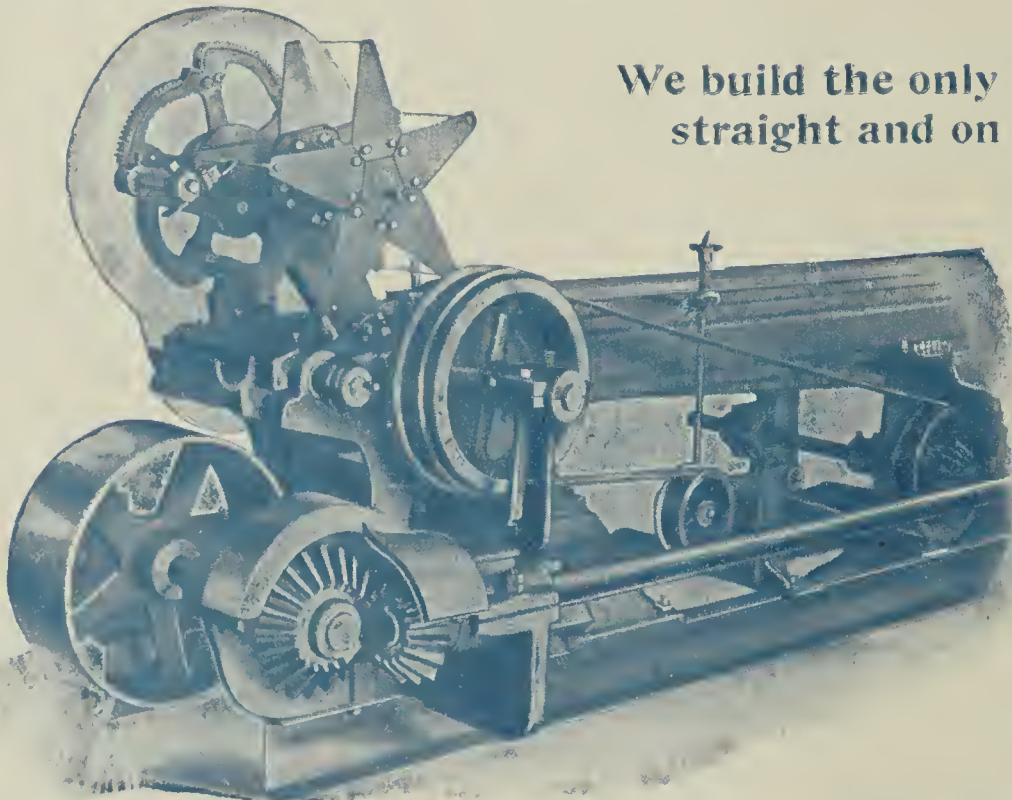


# Steele Single Geared Machines Few and Heavy Parts



**No. 3. 20,000 to 30,000 Brick per Day.**

Our machines for small capacities receive just the same attention as our larger machines. We know the requirements of the small brickmaker by long experience, and have given special attention to simplifying and improving these machines. We think it better policy to carefully consider the necessities of our customers, rather than to load them up with machinery not suited to their conditions. With our machines you are at no disadvantage with the large plants. **Understand we build also equipment for the largest capacities.**



**We build the only End Cutter that will cut straight and on edge, so far as known.**

This Cutter will cut either flat or edge. Most users prefer cutting on edge as it makes a smoother, cleaner cut, leaving the top edge perfect and suitable for face brick; simplifies sanding, it only being necessary to sand bottom edge to prevent sticking on Cutter, in hack and kiln; eliminates edger with the consequent disfiguring of brick, loss of space and wear of delivery belt.

*Ask for catalog of full line.*

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**Statesville, N. C., U.S.A.**

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THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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INDIANAPOLIS, OCTOBER, 1921.

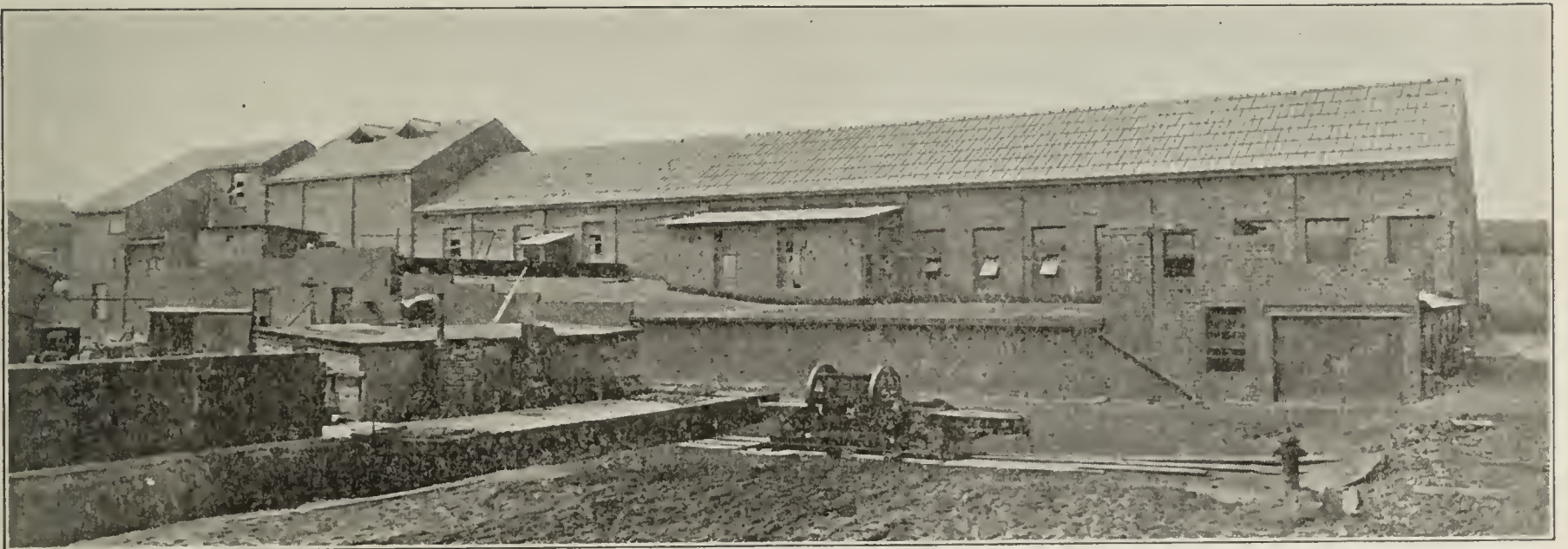
No. 4

## A MODERN BRICK PLANT

New Number Two Plant of The Alliance Brick Company.  
An Up-to-Date Fire-Proof Manufactory Embodying the Latest  
Improvements in Construction and Equipment.

THOSE WHO had the good fortune to attend the summer meeting of the American Ceramic Society, the last of July, saw at Alliance, O., a factory that was a revelation of the progress that is being made in the manufacture of one of the cheaper clay products—a rough-texture face brick from common shale. In the other factories visited on this

time of business depression is encouraging to all who are engaged in the brickmaking or building industries and no brickmaker, especially, can look upon this plant without a feeling of pride and satisfaction. The man who conceived and directed the carrying out of this project is the well-known face brick manufacturer, Mr. F. A. Hoiles. Mr. Hoiles has



Immense Brick Building Housing Clay Storage, Clay Preparation and Machinery Room, Also Dryer of New Number Two Plant of the Alliance (Ohio) Brick Company.

trip, at Sebring, East Liverpool and Newell, where high-priced pottery is made, no one was surprised at seeing fine, substantial buildings, with modern equipment and conveniences, but the general conception of a brickmaking plant was more along the line of what is commonly called a "brickyard."

That the construction of such a plant as Factory No. 2 of the Alliance Brick Co. should be undertaken in the high-priced period following the war and continued during such a

for the past twelve years managed the Alliance Brick Co. so successfully that there was no difficulty in financing the new plant. It is said that it was not necessary to go outside of their own stockholders for subscriptions.

Driving past the plant on the brick-paved street one might question what sort of a factory it is. The power shovel at work in the shale bank on the opposite side of the street, with trackage leading to the factory, is the only indication



of the product. The brick buildings, with an abundance of windows, having steel sash with ventilators, the steel-framed roof covered with red tile and the absence of the familiar round or rectangular kilns with stacks discharging black smoke over the place, might deceive one looking for a brick-making plant. Yet there are no frills or gilding about this plant—it is merely a well-planned and constructed industrial establishment, adapted to the special work to be done and built, as a brickmaker should build, of his own products, to withstand destruction by fire. This is noticeable also inside the plant, where all structures are of brick and steel and cement. Moreover, it is a plant built for economical production, the saving of labor and fuel.

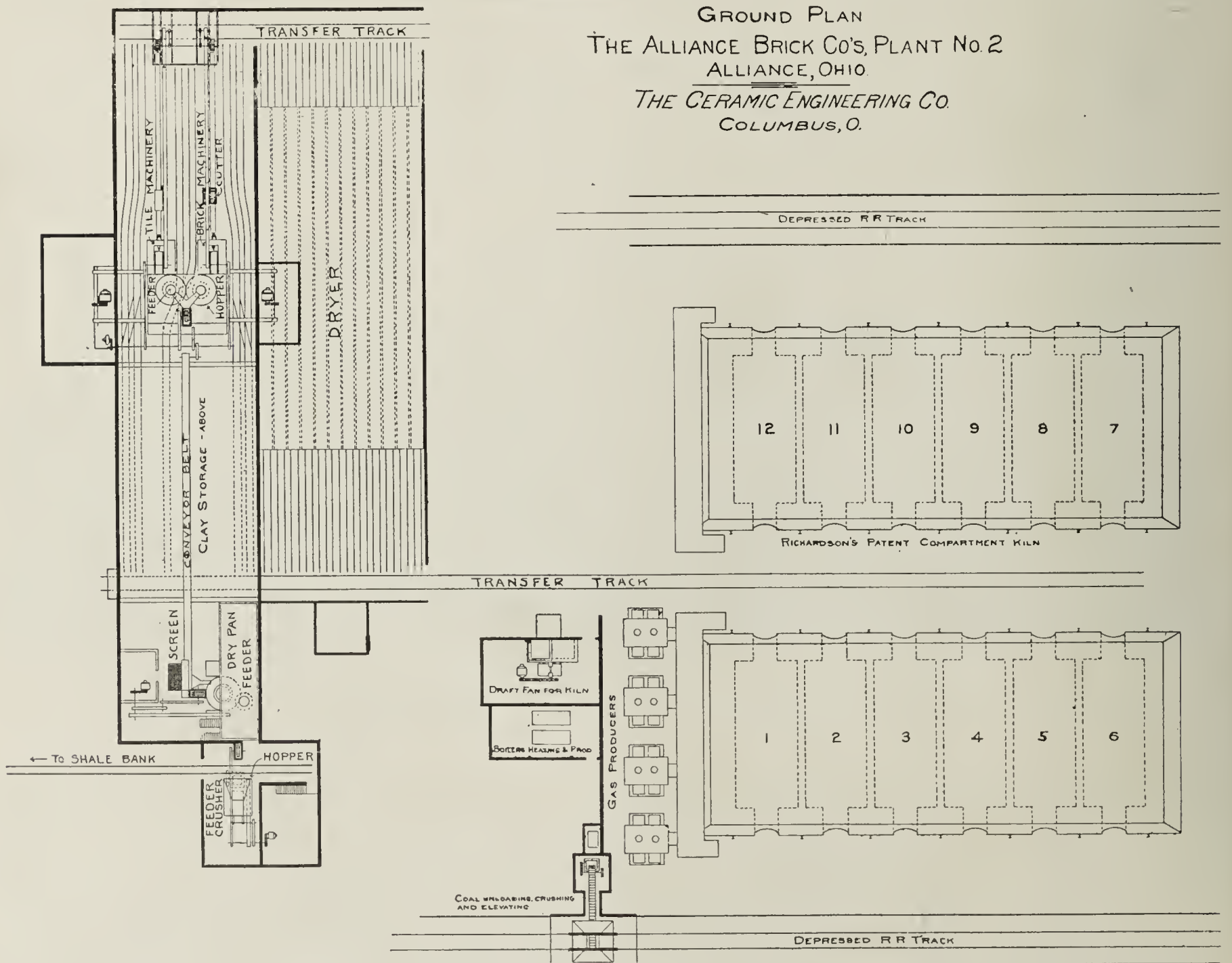
Following up the operations from the beginning, we note that at the shale bank, the shovel, a Thew Automatic No. 0, is run by electric power, unquestionably the most economical power for a brick plant shovel—no coal or ashes, no engineer or fireman, no water lines to freeze in winter, ready to run as soon as the operator is on the job with his oil can, requiring no attention and no expense when not doing work. It may be said here that the whole plant is operated by electricity.

The cars of shale are transported to factory by a storage-battery locomotive. This method of clay haulage may not be the most economical in all cases, but it has the advantage that it is ready to run anywhere, requiring no trolley wires nor third rail and no expert, as it has none of the balky tricks of a gasoline motor. The recharging of the batteries is done at night, automatically, at a cost, it is said, much less than

gasoline. This locomotive, including the recharging equipment, was made by the Ironton Engine Co., Ironton, Ohio. One man operates the shovel, loading the car, and also hauls it to the factory.

The car enters the factory high enough to be dumped into a hopper, underneath which is a reciprocating plate feeder, made by the Ceramic Engineering Co. This feeder discharges the raw shale automatically and regularly into a single-roll crusher, made by the Stevenson Co. The crushed clay is elevated by a steel bucket elevator to the storage bin over the dry pan. There are two novel and superior features of this elevator, and of all the elevators in the factory. First, the elevator shafts are entirely of brick, and, second, instead of the ordinary elevator boot that causes so much trouble in clay, there is a brick-walled pit, of ample size to permit of the clay forming its own boot, in which the foot-pulley runs, the shaft extending through the walls, with self-adjusting take-up boxes on the outside and dust protectors on the inside. The elevator belt is always tight, up to the limit of the take-up, without the troublesome adjusting screws. This rig was designed and made by the Ceramic Engineering Co.

On the bottom of the crushed clay bin is a 60-inch suspended disc feeder, such as is commonly used, made for many years by the Ceramic Engineering Co. This machine, driven from the dry pan shaft, feeds the Stevenson 10-ft. pan uniformly, increasing the capacity of the pan, without any sudden strain on the driving mechanism. To increase the capacity of the pan also the modern method is adopted of using





coarse screen plates in the pan and doing the fine screening outside. This requires a large capacity screen such as is obtained by the rapid vibration of wire cloth stretched tightly over frames. At this plant is a new and novel screen of this type, Richardson patent, made by the Ceramic Engineering Co. and called the "Rota-Vibra," being a combination of a rotary scalper and distributor with the inclined vibrating screen. The inclination of the rotary scalper is easily and quickly changed to adjust it to the even distribution of clay over the vibrating screen. The mechanism of the vibrators is entirely under the fine clay chute and not on top of the screen or cover. The fine clay from the screen is conveyed into storage bins or directly to the hoppers over the pug mills. The storage bins are of reinforced concrete, with the bottom about seven feet above the factory floor, so that the empty-car return tracks can pass under the bins to the brickmaking room. This arrangement also makes the troughing-belt conveyors above ground and easily accessible.

The hoppers over the pug mills are steel cylinders supported on steel I-beams and are nine feet high and nine feet in diameter. On the bottom of these hoppers are the Columbus feeders, driven from the pug mill shafts. These feeders make uniform tempering easy and give a constant speed to the bar of clay. There are two sets of auger machinery in this superbly lighted room, one for the making of face brick and the other for the making of hollow building tile. These machines are such as are used in their Factory No. 1, made by the Hadfield-Penfield Steel Co. The automatic cutting tables are made by the E. M. Freese Co.

The tunnel dryer adjoining the brickmaking room is of the type known as the radiating flue dryer, a furnace under the end of each tunnel fired with producer gas, the top of the flue under the space between the track being covered with cast iron plates of special pattern. This dryer, designed by the Ceramic Engineering Co., dries the brick at a remarkably low cost. The gas comes from a battery of producers at the kiln, since at this plant all the coal is burned at one place and no coal is shoveled. Above the lower end of dryer is a transverse

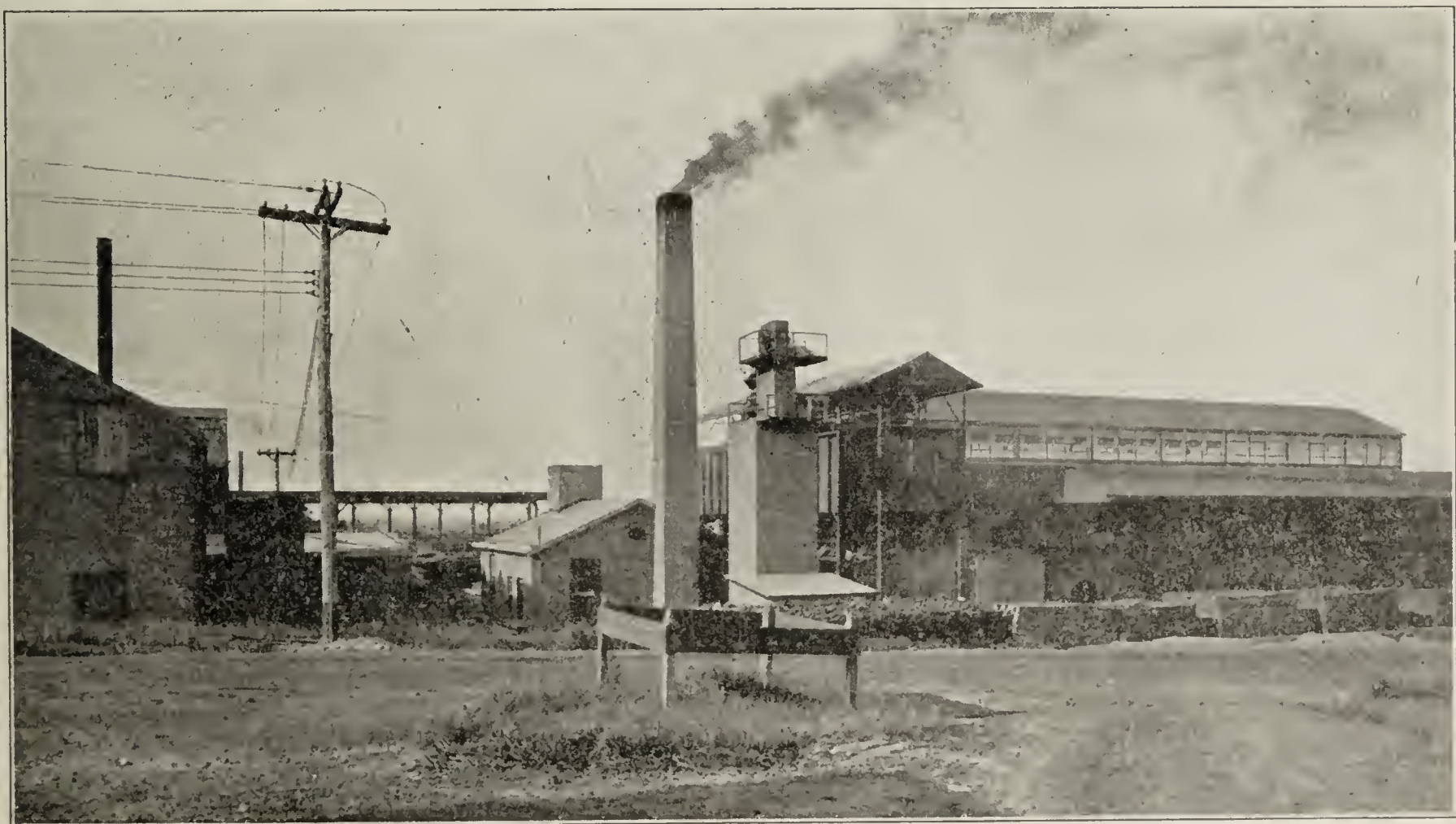
duct from which lead distributing ducts to each tunnel. A fan draws the waste heat from cooling compartments of kilns and discharges through openings into the tops of tunnels. About half of the heat for drying is obtained in this way, that is half of the tunnels are operated on waste heat from



F. A. Hoiles, Manager.  
Alliance Brick Co., Alliance, Ohio.

the continuous kiln, and the compartments thereby cooled more rapidly.

The coal is unloaded from bottom-dump cars into a hopper under the track, which delivers on to an apron conveyor that feeds a single, roll crusher. The crushed coal is elevated to



Clay Preparation and  
Machinery Building

Power Plant

Gas Producers  
Coal Unloader

Kiln

Loading Tracks.



a scraper conveyor that fills the hoppers over the gas producers. This equipment is of the most approved form and was supplied by the Jeffrey Mfg. Co.

There are four rectangular brick gas producers, though only three are required. They are of a simple, efficient type, with steam-blown tuyeres and water basins. These are at the end of one of the rows of the Richardson Compartment Continuous Kiln. This kiln consists of two parallel rows of down-draft compartments, 18 feet wide by 43 feet long, each compartment having 14 gas ports and combustion bags on each side, diagonally arranged. The gas is controlled by valves operated from one end of the compartment, near the

peep holes over the bags. At present there are 12 compartments, but provision is made for doubling the capacity. Each compartment holds about 70,000 brick. It takes two days to fill a compartment, so that two days are taken to fire a compartment and two days to empty one. The shed over the kiln is of steel construction, with metal ventilating sash in the monitor. The loading tracks at the outside of each row are depressed to the level of the car floor. The space between the kilns and the retaining wall has a reinforced concrete pavement.

The drawings of the entire plant were made by the Ceramic Engineering Co., Columbus, Ohio.

## N. B. M. A. CONVENTIONS AS AN "EXTENSION SCHOOL."

Valuable Information Gleaned From Convention Papers and Discussions on Salt Glazing Which Have Appeared in Convention Reports of Great Help to "Bill" the Burner.

By J. J. Koch.

AT the appointed time and place, most of the brick men were ready for the usual discussion when the roll call showed CALAMITY HOWLER absent. Upon his arrival he was greeted with the teasing question, "Have you another calamity story to tell?" He replied, "Sure! But it does not concern me. Bill, the burner out at the Strohmer plant, was told to salt-glaze stiff-mud shale brick, just receiving slight verbal instructions as to how to proceed. As you are all aware, Bill is a first-class burner for dry press brick made from 'Loess' clay. I surely felt sorry for him, when he had to tackle a salt-glaze proposition, on shale brick, in down-draft kilns. Every time I think about this problem, I have wondered whether something could have been found in the wonderful convention reports of the N. B. M. A. that would be of service and benefit to Bill."

It was finally decided that the writer should make a search of said reports and make a report to Bill and thus if possible help him out of his predicament. The following is a statement in concise form of what was found:

### SALT GLAZING.

#### How It Is Done and the Effect.

"You all well understand that all clays will not take a good salt glaze. A good salt-glazing clay is one that contains a considerable proportion of very fine silica or sand.

"The wares that are to be salted are made and dried the same as other similar wares. The setting wares to be salt-glazed are set a little differently than wares that are not to be salt-glazed, inasmuch as the ware is set to expose the face of same to the kiln gases. As an example of this we will take a vitreous face brick. In setting face brick that are not to be salt-glazed the brick are set face to face and not lapped any more than is necessary to tie the courses and benches together. This is done for two reasons—First, to keep the faces nice and straight and free from marks; second, to keep the kiln gases from coming in direct contact with the face of the brick. This gives better color.

"Salt-glazed wares, as I have said, are set to expose the face of the ware to the action of the kiln gases. This is so because only the surface exposed to same is glazed. To accomplish this, brick that are to be salt-glazed are set side to side and small openings left all around the brick, so that the gases can come in contact with all the face surface.

"The burning of salt-glazed ware is not dissimilar to that of other wares, up to the application of the salt. The kiln, after setting is closed, the fires started, the mechanical water expelled, the combined water expelled, the heat raised to the settling point, and the kiln settled as in other wares. After the wares are burned to a point where they are finished, as far as non-glazed wares are concerned, the salting process begins.

"The first thing essential to salt-glazing is clean, bright fires. If they are not so at the end of the settling of the kiln they must be made so. Now, just the exposed surfaces are softened a little by a quick, hot fire, and when the fire is at its maximum, the salt is thrown on the white-hot fires, in quantity that only practice with each clay, and the conditions, will teach. This process cools down the kiln somewhat; the fires and the heat in the kilns are again raised up to the maximum as quickly as possible by the addition of more fuel, after which the salt is applied as before.

"This process is repeated until the surface of the ware has the desired glaze, which is determined by drawing trials from the kiln after each salting. After the ware has been properly glazed, it must be carefully cooled. If not, it becomes brittle; I believe more so than in similar unglazed wares.

#### The Effect of Salt-Glazing.

"Salt-glazing has the effect of making the ware more impervious and also gives it a smoother surface. There is a goodly number of pros and cons as to the merits of salt-glazed wares, especially in the paving brick line. It is a fact that we find brick that are salt-glazed that stand good tests and wear in the pavement equally as well as unglazed wares and vice versa."

The general discussion brought out the following statements:

The effect on the inside of the kiln depends on what you line your kiln with. If it is lined with silica brick, these brick will not take the salt glaze and the crown will look the same; but at this particular plant they use the ordinary fire-brick for kiln lining and the glaze is thick all over the crown, and sometimes it drops in large blotches.

In this salt-glazing work even those who have worked at it for years cannot tell just what they are going to get (as far as color is concerned). Mr. Magoon, the proprietor of



this factory, says he don't know how he gets these different colors.

The light effect is caused by ferrous iron and the dark effect is ferric iron. The glaze the brick takes on varies in color from a green to brown, depending upon the oxidation of the iron, in which the iron on the surface shows through and shows a green color. You will find the same thing at the glass works.

The brick are the same color until they are glazed, yet they will have the dark effect and the light effect close together.

Close to the top they generally get the green and down on the bottom of the kiln they get the darker shades. These brick were burned with natural gas. The center and bottom of the kiln would get less heat. I would just as soon have the bottom brick as the top, and a little bit rather. The top brick sometimes get a little overburned before the bottoms are finished. They want the salt to get to the bottom and when the bottom is salted, sometimes the top is melted. It makes no difference to the company how much gas they use, for they pay the gas company so much per thousand brick; so you see there is no reason why they should fire the brick quickly or slowly."

The above mentioned paper was read a number of years ago at a convention of the N. B. M. A. The resultant production processes are very tersely stated, and it could only be slightly improved by more detailed explanations. This would not, however, detract from the value of this paper, which was presented by a young man who won the scholarship given by the N. B. M. A. to the State University of Ohio—and in this way showed his appreciation of his good fortune.

At a later convention there was presented a paper on "Salt-Glazing Brick" by an European expert, from which the following statements are abstracted:

"Salt-glazing is the simplest in the whole range of pottery production. It requires a clay that will stand a great heat. For salt-glazing the articles receive the full force of the open fire; the flames play directly into the kiln and circulate through all the ware. Salt-glazing, although obtained by such simple means, is chemically and technically superior to other glazes.

"The decomposition of the salt takes place in the firebox and not in the kiln and the sodium enters the kiln as blue vapor, and covers all the exposed parts of the ware. In this state it is the flux or acting agent, combining with the silica and iron present in the clay, forming the glaze or glass on the surface of the ware.

#### How and When the Salting Should Be Done.

"Some preparation is necessary. Eight to ten hours before the kiln is expected to finish, the fire grates should be well cleaned. This is to give time to get the fires to a clear heat and as soon as incipient vitrification has taken place (which may be known by trial pieces) the salt should be applied; a small shovelful spread evenly over a clear fire, at the back end of each fire-box. The fires should at once be renewed with fuel and when burned down, repeat the salting as before. Then fire twice, after which give the last salting; then fire on with a brisk heat until the body is hard enough, and the kiln is finished.

"The proper salt for salt-glazing is crystal salt, which is most generally used, as it is drier and lies loose on the fire, and the fire can get through it and its decomposition is more certain. Too much stress cannot be laid on this, that the heat in the fire-box must be sufficient to thoroughly decom-

pose the salt; without this the salting cannot be properly done.

"The clay most suitable for salt-glazing is a fire clay containing from 60 to 70 per cent of silica and may have from 4 to 7 per cent of iron or ferric oxide. I may here remark that the purer the clay, the less readily it will salt-glaze. It therefore happens that the finest examples of salt-glazing may be found among the common drain or sanitary pipes.

#### The Coloring of the Ware.

"We come now to a very interesting part of the subject. A writer in *The Clay-Worker*, in describing what he saw at a sanitary pipe works, said; 'When the highest heat was attained, for the purpose of maintaining an even temperature while salting, rosin and oil were used to counteract the condensing effect of the water in the salt. The fires were immediately banked up with fuel to exclude the air, and the damper put down so as to shut up everything in the kiln, only what could escape through the crevices in the kiln wall.'

"Permit me to say that salt had little, if anything, to do with coloring of the ware; the sulphur, generated from the fuel and confined by the process named above can confidently be charged as the cause. Sulphur will spoil any glaze, whatever may be its nature, and discolor any clay, whatever may be its original color; its power is sufficient to turn clay bodies a dull coffee brown or greenish black and so act on the ferric oxide as to make eruptions on the ware, in some cases rough enough for a suet grater, and when this has taken place there is no remedy. The sodium has no power to act over the sulphur. The ware is in the condition known as sulphurated. Such is the power and result of sulphur, therefore it should be gotten rid of and the kiln kept clean and free from it.

#### How Is This to Be Done.

"Let us say that the idea of even temperature is erroneous. Heat in a kiln will either be increasing or decreasing. For the purpose of salt-glazing the temperature should be rising, and if the heat in the fire-box is sufficient to thoroughly decompose the salt, the temperature in the kiln will be several degrees higher, immediately after salting, without the aid of rosin and oil. Another error is to put the damper down; it should be the aim of the fireman to eliminate the sulphur and chlorine from the kiln, giving the freedom to act on the partially vitrified body of the ware. This is VITAL. Salt-glazing cannot possibly be done while sulphur and chlorine are present, therefore the damper should be left open, giving a clear draft through, so that the sulphur and chlorine have clear and unobstructed egress through the stack. Another error is to bank up the fires so as to exclude air passing into the fire-boxes. It is important that air under proper control should have free access not only through the grates, but over the top of the fire. This can only be done by properly constructed fire-boxes. The air thus admitted assists the combustion of the fuel; it purifies the heat and drives out the gases injurious to the ware. The sodium will be free to do its work, and if the clay is the proper kind, the ware will be bright, smooth and a beautiful color."

After Bill had read the above statement, he said:

"I notice you offered both domestic and foreign practice in salt-glazing—with all the do and don't—and I only wish I had known all the above, for then I would have had knowledge which would have helped me considerably and undoubtedly my results would have been more satisfactory. You know what I was doing? No. Well, I will tell you. I was traveling on the ocean of Salt-glazing without a compass. That is knowledge of how to do what I intended to do, and this information in these papers is just what I needed."



## A FINE DISPLAY OF FRONT BRICK.

Attractive Panels of Brick Laid Up in Actual Colors and Bonds in Wisconsin Lime & Cement Co.'s Show Rooms.

**C**HICAGO is a great front brick center, and foremost among the local dealers is the Wisconsin Lime and Cement Co., which goes to illustrate the old adage, "There's nothing in a name." They have recently erected new display rooms in the Conway Building, where they occupy Suites 421 to 441. The accompanying illustrations will give a faint idea of the extent of their display and the careful manner in which it is arranged. All of the brick are laid in actual

kiss, architect, Oak Park, Ill., and the brick work laid by Mr. Frank J. Smethurst, superintendent of construction, Guy & McClintock Co., Oak Park, Ill.

The various shades and textures shown in the panels are so distributed as to avoid any confusion to the customer in making a selection. The rooms are illuminated with eight 300-watt daylight lights. The treatment of pilasters and arches over doors shows the vast possibilities of the use of face brick to obtain ornamental effects without the aid of other materials.

Mr. Joseph P. Sullivan, manager of the brick department, states there is a decided increase in their orders and this,



The Wisconsin Lime & Cement Company's Artistic Display of Front Brick.

mortar, in actual colors and bonds, and are carried on angle irons, so any one panel may be removed without disturbing any of the rest of the display.

The pilasters project  $4\frac{1}{2}$  inches and in each one are shown three different shades of smooth face brick separated by rowlocks. All soldier courses and rowlocks are smooth face, dark brown iron-spot brick. Top of each pilaster is rough texture brick, mingled shades, in ornamental effects. The insets in rowlocks are of the same brick in cubes one inch square and laid in rake joints, colored mortar.

Each room is lighted by four 300-watt daylight lights and in the soffits of the arches there are four small lamps set in mahogany boxes.

The display rooms were designed by Mr. Roy J. Hotch-

too, with a minimum of sales talk, which he attributes to the attractive displays in the exhibit rooms.

### BANDITS HOLD UP PAYMASTER.

Charles Carman, paymaster of the Mosaic Tile Company, in Atlantic street, Matawan, N. J., was robbed, recently of the weekly pay-roll amounting to \$1,600. One of the bandits was caught shortly after the hold-up and \$440 in bills was recovered. Mr. Carman was held up at the point of a revolver as he was preparing to pay off the seventy-five employees of the company. The plot was well planned as all outside communication had been severed, and only by prompt action on the part of the county officials was the recovery of even a part of the pay-roll accomplished.



## TEACHING ART IN THE POTTERY TRADES.

OUR BRITISH COUSINS have always been active in pottery trade development, and now, according to a special commerce report, they are making a drive for a higher standard of design in pottery wares.

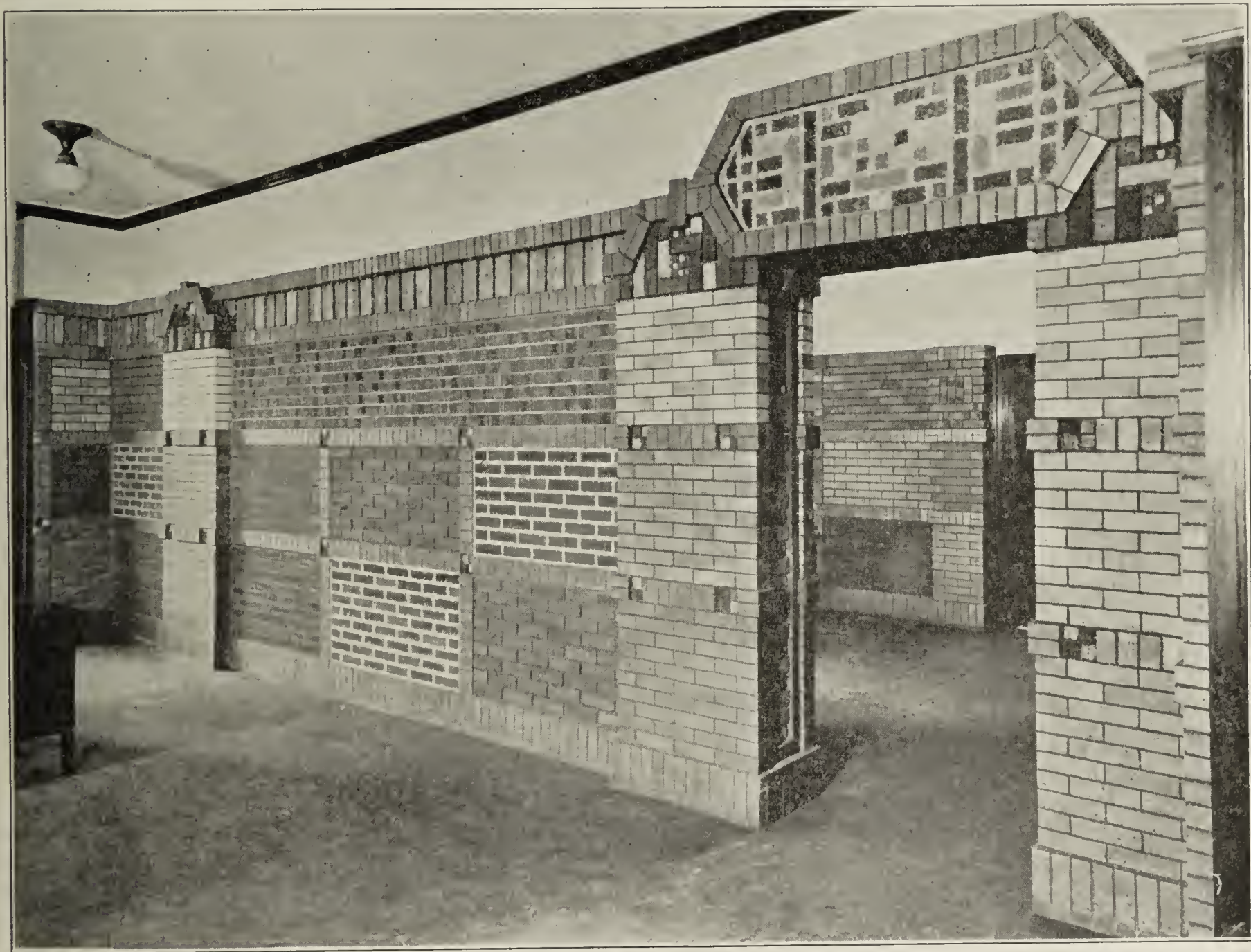
It seems that the British Pottery Manufacturers' Association has been so impressed with the need for specific training and education in the matter of pottery design that it has added a special art advisor to its staff.

The art advisor is Mr. Gordon Forsyth, Director of Art Education in the Potteries.

The Pottery and Glass Record looks favorably upon the

very interesting phase of English pottery production. Our point of view in regard to what constitutes good form and good decoration is very different from what it was a few years ago, and there has been a big awakening on the part of the people to demand more artistic products. There certainly is an increased call in the home market for such classes of wares. The phase that we have just gone through of general prosperity has led manufacturers to want to maintain that prosperity by improving the character and the quality of their goods, and so retain markets when competition comes about.

"At the outbreak of the war Germany was just branching out into artistic pottery production, just began to support an extremely interesting school of design. The Germans made



A Chicago Show Room Which Makes the Salesman's Work Easy.

past record and the prospective good which Mr. Forsyth may do, and there is reproduced in the commerce reports the following published interview, giving his views:

"My function will be to advise members of the British Pottery Manufacturers' Federation who submit works to me for criticism on all questions of taste and shape. Such advice will extend not only to the design as a whole and the form, but also to the decoration and the glazing; in fact, anything that appertains to pottery production. The federation will charge a fee on the basis of time consumed and number of pieces submitted. When the former opposition of manufacturers to interference with their own productions is recalled, the volte-face is remarkable and full of hope for the future of the potteries and the training of young designers.

"There can be no question that we are on the eve of a

use of art in a commercial sense. If we want to succeed, we must do it in the same way. It is very important that it should be related to mass-production lines and not alone to the highest class of hand-thrown pottery, for it is the former kinds that are bought by the million, and it is the general public whose taste it is desirable to improve, so they will in turn seek for still better articles.

"If we can not do things better today than they were done years ago it is a bad outlook for the Potteries. The craftsman is a better man today than ever he was before. The art schools here are out to train craftsmen; many of the art students take courses in science to learn how to obtain fine colors, and we have also in the art school a research class specializing in efforts to discover new color effects and glazes. These are apart from classes in throwing, turning, etc."



# THE LABOR PROBLEM OF THE CLAY INDUSTRIES.

Review of Building Situation and the Progress Which Has Been Made the Past Summer,  
Showing Wherever Proper Effort Has Been Made to Bring Wages and Costs  
Down to an Equitable Basis a Building Boom Has Resulted.

THE CLAYWORKING INDUSTRY is particularly interested in the present unemployment problem and the solution being sought therefor because the right answer to the unemployment problem means the producing and marketing of more clay products as well as the furnishing of more employment for people who need jobs.

The understanding in this connection is easy when we consider that one of the fields where unemployment has been a feature is in the building industries, and since it is to these industries clayworkers must look for quite a percentage of their market, the finding of additional employment for people in the building trades means the developing of larger markets for building material, including brick, hollow tile and all other clay products which enter into structural work.

And the real answer to the unemployment problem is an equitable adjustment of wages in the three industries which are today regarded as the sore spots on our industrial body. These are the railroads, the coal mines, and the building trades.

About the first thing that that unemployment conference called at Washington realized and gave publicity to was that in these three divisions of industry wages are too high in comparison with the general run of wages and salaries in other industries and other walks of life throughout the country. They might also have said with equal truth and forcefulness that it is in these three major lines that we find the most unemployment, and it is from these causes and out of these ranks that we have recruited the great army of unemployed. Therefore the logical answer is to so adjust wages of railway workers, miners and the building trades people that it will be considered equitable and fair. When this is done the unemployment problem will settle itself in a little while, and meantime it will all contribute materially to the speeding up of the wheels of industry and commerce everywhere, as can be readily seen from a thoughtful study of the interlinking influence of these with all other industrial and commercial lines.

A review of the building situation and the progress that has been made during the summer season shows that wherever a proper effort has been made to bring wages and costs generally down to an equitable basis there has been good progress in building and a fair measure of employment and prosperity all around. On the other hand, where there has been contention, either resulting in strikes or in the bull-headed standing out for a high wage scale on the part of workers, and big profits on the part of those producing and marketing building material, conditions in the building trade have remained stagnant, and rightly so. Money is tight and the opportunities for investment in securities which will yield a good percentage of return are much more inviting than the prospects of putting money into buildings at high prices for material and labor with a chance of having to charge off in depreciated value perhaps 25 per cent of the cost.

It is those among the laboring people who stand out arbitrarily for peak wages, no matter whether they be individuals or union leaders, who are responsible for a lot of the present unemployment. Naturally therefore it is up to them to make a move or be without work. They are not the only ones to blame, however. Manufacturers and dealers themselves are not entirely blameless. Many got the habit during and fol-

lowing the war of figuring on and obtaining high prices and wide margins of profit just as the working man got the habit of high wages, and there must be a coming down to earth all along the line. Business men, whether they are manufacturers, dealers, or salesmen, as well as laborers, must realize that the war is over and we are striving to get down to earth, and that small and reasonable profits will be better for them in the end than a persistent striving to maintain high prices and high wages.

The answer is lower wages and closer figuring all around. There has been too much scientific piling up of overhead and other cost burdens, and the time has come to shake loose from some of these. If we will all shake loose and get down to earth and be satisfied with what we may think is meager returns we will find therein the real answer to the unemployment problem and also the real starting point for a revival in industrial and business activity.

A coming down to earth with costs, wages and material will not only encourage new building undertakings, and thus furnish employment for many who need it, but it starts the development of what may be termed a virtuous circle to replace the vicious circle that has held us in check so far. More building means an increased demand for building material, and this in turn means more winter operation of clay-working plants as well as cement plants, sawmills, steel mills and other plants producing structural material, and this in turn furnishes more employment in these industries for men needing jobs.

As stated above, in those communities where they saw light and found this answer earlier in the season there has been a very good season of building operations. There has been a fair amount of employment, there has been good business for the brick and tile plants, thus augmenting the employment; there has been a fair amount of selling by dealers and a reasonable amount of prosperity all around which it is good to see. Many communities throughout the country have set an example and have demonstrated what it will accomplish. Now it is up to the country as a whole to follow suit.

The real answer to the employment problem is, lower wages, a closer margin of profit in the building trades and in the mines, and lower wages and reduced freight rates on the railroads.

## AN ANCIENT WAGE DECLINE.

In the course of a series of articles on decorative mosaic being published in *Tile Craft*, Mr. Theo. J. Specieney says:

"As a curiosity I will give some information concerning the salaries paid to the mosaists of St. Peter's in Rome. The expenses of the copies and scaffolding were always charged to the Vatican. The mosaist was paid fifteen Roman dollars (nearly \$40 U. S. money) for every eight square inches of surface; an ordinary mosaist's salary was about ten dollars for the same amount of surface. Prices fell to about three dollars after the coming into Rome of a number of Venetian mosaists, and at the end of the seventeenth century the price was reduced to \$1.75. 'Verily it is to be regretted that mosaic, an art so precious for its beauty and its durability, is no more



avored by the artists and encouraged by the princes.' Thus Vasari wrote in his *Life of Titian*."

#### THE CURE FOR IDLENESS.

THE CURE FOR IDLENESS will be found in the speeding up of industry so that all those who want work and need work can find work. This fact was easy enough to understand before that unemployment conference was called and the conference itself could do nothing more than investigate and venture some ideas and opinions. It is up to the people individually and collectively to bring about the change in industrial conditions.

About the most charitable thing that could be said for the suggestion that manufacturers relieve unemployment by rotations of positions is that it can be applied in some measure by employers here and there who use common labor in quantities and irregularly. These may rotate and divide the days of employment up among all the unemployed who apply. To take such a rotation into the manufacturing industry involving team work and skill, however, is obviously impractical. Moreover, the suggestion smacks too much of socialism, of insisting that those who have must yield up a part to those who have not, and it is a bad idea to inject into the business world at the present time. We have had too much of socialism and socialistic ideas to experiment further with them now.

One fact which the conference served to emphasize is that the demanding of too high a schedule of wages is responsible for quite a lot of the present unemployment. This is seemingly a matter of dictation by unions and it is especially noticeable in the three divisions of mining, railroading and building trades. It is here, too, that we have the greatest percentage of idleness along with a bull-headed insistence upon wage scales that are all out of proportion to the daily earnings of the people in other walks of life.

It is the duty of people everywhere to strive earnestly for the relief of suffering through unemployment and find jobs for the jobless. The obligation is not all onesided, however; we are not called upon to furnish jobs at exorbitant hourly rates of pay and it is up to the workers themselves who are out of jobs to realize this and offer their services on a fair basis of compensation.

Meantime it is up to industry and to people everywhere to help solve this idleness problem, or rather it is up to each man to do his part and to cooperate with others in the community. It was not to be expected that governmental conference itself would bring any measure of relief. All that could be hoped from it was that it would help point the way, and now it is pointing back to each community to take up this question and find the answer.

Fortunately conditions are not as bad as some had painted them and the army of idle workers is not so large as the figures indicated. But so long as there is idleness and suffering from want of jobs there is a duty before us, a duty which we should neither shirk nor postpone. We must furnish work and through this relief from suffering. So let us turn to and get busy.

#### MORE ATTENTION TO ADVERTISING

The industrial slow-down and the financial pinch has awakened business men to the fact that they should give more attention to advertising. At first there was some disposition to curtail on advertising. Then came a realization that curtailing advertising is a poor way to stimulate business. The plain need of the day was for better and more forceful and clear-cut advertising. The outcome is an awakened interest in the subject of advertising which should lead to the doing of more advertising and the getting of better results from it by putting interest and brains into it.

## INDIANA TO PAVE THROUGH ROADS.

Lyons, New State Highway Director, Announces Policy of Continuous Improvement.

THE "SKIP-STOP" method of road-building, which has been such an annoyance to travelers in Indiana, is to be abandoned, according to Lawrence Lyons, the recently appointed Director of the State Highway Commission.

In the past, roads in Indiana have been built short sections at a time, leaving gaps between the portions improved. According to Mr. Lyons, the policy hereafter will be to start the improvement of a main road and carry it through to completion, concentrating the available funds on linking up the most important through routes first.

The Indiana State Highway system comprises 3,600 miles, of which, at the present time, 414.7 are of concrete, with a total of about 600 miles of hard-surfaced pavement of all kinds. During the fiscal year ending September 30th last, the Department laid 70 miles of pavement, largely in scattered contracts let for the purpose of linking up previously existing pavement in which gaps had been allowed to remain. Of this 70 miles, completed during the past year, 12 are on the Lincoln Highway, west of Valparaiso, and serve to complete the paving of that route from Valparaiso to the Illinois State line, with the exception of that small gap which the Lincoln Highway Association proposes to construct as its "Ideal Section."

In line with the policy announced by Mr. Lyons additional contracts for the pavement of the Lincoln Highway east of Valparaiso will be let for the coming year. Attention will also be given to the completion of the Old National Road east and west across the state through Indianapolis.

Indiana's annual revenue from motor license fees approximates \$2,000,000, which is not quite sufficient to take care of the yearly bill for maintenance.

#### ENLISTING THE BRICKLAYER.

C. L. Rorick, manager of the Permanent Builder, Chicago, is putting on an interesting campaign which consists in part of enlisting the bricklayers of the country in the matter of boosting building with brick, hollow tile and other permanent building material in their community.

They have prepared a series of forceful newspaper advertisements and editorials which they are arranging to distribute with the cooperation of the local organizations of bricklayers wherever there is local organization. They are placing the matter before both the officials of the bricklayers, masons and plasterers unions, and simultaneously before the newspapers in their respective cities, and have prepared to furnish mats as well as data and reading matter for the ads.

This campaign has been made possible by the financial cooperation of the American Face Brick Association, the Common Brick Manufacturers' Association, and the Hollow Building Tile Association, these having paid for the mechanical and distribution expense of the campaign. It is confidently hoped that it will result in getting this matter before at least 500 papers throughout the country, which will not only be good publicity, but it also enlists the cooperation and team spirit of the bricklayers of the country, and that is good stuff, too.

A build-with-brick campaign to last five weeks was discussed by three locals of the Bricklayers' and Masons' unions in Newark, N. J., recently. It is planned to get out a prospectus to show the low cost of brick as compared with other construction, and building plans will be furnished without cost as a part of a general effort to stimulate construction in this material.



Written for The Clay-Worker.

## THE ORIGIN OF BRICK.

"Granite disintegrates and crumbles into particles of mica, quartz and feldspar; marble soon moulders into dust of carbonate of lime, but hard, well-burnt clay endures forever in the ancient landmarks of mankind."—Sir Charles Lyell's *Antiquity of Man*.

**T**HE BRICK is such a common building material, that one may suppose it always did exist, and that it needed no discoverer, yet there was a time when it did not exist.

There is a Hebrew tradition, that when the early people of the world were in the plains of Shinar which in later years was known as Babylonia, they wished to construct a tower, but in the alluvial soil they could find no stone or other material suitable for this work. Necessity forced their minds to work out a new material, from the earth they took clay, moulded in it the form of a cube, burnt them (Gen. X. 1-3) called them brick, and laid them with a pitch from a neighboring hot spring at Hit upon the Euphratis. In later years they found lime in the hills east of Bagdad which was used.

In excavations which have been conducted at Bismya in Central Babylonia at a place supposed to be the ruins of a temple on Temple Hill, the most ancient ruins yet discovered, have explained the origin and development of the Babylonian brick.

In the highest stratum of this heap of ruins were found brick bearing the name of Dungi, a king who lived 2750 B.C. A little farther below this were the bricks of the famous Sargon, who a few years ago, was regarded as the oldest known king in history. His date is generally placed at 3800 B.C. Below this were walls constructed of the so-called plano-convex brick assigned by assynotogests to 4500 B.C. and in the extreme bottom of these excavations were the ruins of still an earlier civilization, and these ruins can only be estimated to represent a period not far from 10,000 years ago.

In this vast accumulation of ruins, covering so great an extent of time, were discovered nearly fifty varieties of brick from different makers, illustrating clearly their evolution from the beginning, to the brick resembling the ones used now by the modern builder.

The first Babylonian brick measured about 5 by 8 by 3 inches and gradually grew in size until they were made 9 by 14 by 6 inches. In the reign of Sargon 3800 B.C. the brick were increased to 18 inches square by 3 inches thick. Narom Sin, son of King Sargon, finding these brick too large and cumbersome, reduced the size to 12 inches square by 3 inches thick. A thousand years later, or about 2800 B.C., the size was reduced to 11 inches square and 3 inches thick, thus remaining this size to the end of the Babylonian Empire, and the palaces of Nebuchadnezzar at Babylonia were entirely constructed of them.

In about 2800 B.C. masons laying these square brick found, that to break their bonds, and end their courses evenly at the corners, they were compelled to break these brick into halves. Here then, began the manufacture of odd lengths and special sizes of brick, although maintaining their size as a standard, the Babylonians would manufacture the special brick according to the builders' requirements.

Their process of manufacture was very crude, making a shallow pit or bed, into which they would put their clay, chopped up straw, and water in the proper proportions. This would be tramped by foot until it became thoroughly mixed and of the proper consistency, then it would be removed with shovels, shaped by hand and in wooden moulds, placed in the sun to dry, then a portion of them were put into the kiln and burnt, as the sun-dried bricks were used on all inside

walls and all places where water did not come in contact with the brick. The burnt brick were a little smaller than the sun-dried. The straw was used to prevent the brick from cracking when drying.

The Babylonian kings wished to perpetuate their name or distinguish their work from others by adding special marks. Sometimes the reigning consuls and the year would be inscribed. The brick inscriptions which first appeared in 3800 B.C. were sometimes engraved, but more often stamped. Narom Sin marked a few of his brick of a structure with a brief legend, "Narom Sin the builder of the temple of Ish-tar;" of later kings the inscription, which were longer, appeared upon a number of brick. There were many brick found in the Bismya Temple marked Dungi of 2750 B.C. bearing nine straight lines for his mark. Nebuchadnezzar stamped nearly every brick of his numerous constructions with a short inscription which read, "Nebuchadnezzar King of Babylon, the restorer of the temples of Esagil and Ezida. The first son born of Naboplassas King of Babylon."

In durability, and in the variety of shapes, the skill of the early brick-maker has never been surpassed. At Bismya brick were found 4500 B.C. as perfect as the day they were made, our large desert houses were constructed, and the desert wells were walled with these brick over 5000 years ago, and are found in a perfect state today.

## ROAD BUILDERS TO MEET IN CHICAGO IN JANUARY.

In view of the fact that road building now forms the major part of the construction industry, the second largest industry in the United States, the announcement of the Board of Directors of the American Road Builders' Association, that its next annual convention and good roads show will be held in Chicago, Ill., on January 17 to 20, 1922, is of particular interest. More than one billion dollars is now available for highway work in this country and legislation now pending before Congress undoubtedly will be passed, adding many millions more to this account.

Last year the association held its convention and show at the Coliseum in Chicago, which was declared by all attending to be the greatest and most successful ever held. Because of the central location of Chicago, the directors of the association have decided to hold the convention in that city again. Plans are now under way to make the coming convention even greater than that of last year.

In addition to the papers and discussions on important highway problems by leading road builders of the country, the exhibition of road machinery will be an extremely valuable feature. During the past decade, road building methods have been revolutionized by the introduction of labor-saving machinery. In 1919, the last year for which figures are available, more than \$100,000,000 worth of road machinery was manufactured, according to the U. S. Department of Commerce. This is greater than the value of all other construction machinery produced in that year and shows the relative importance of the road building industry.

With the central location of Chicago, the immense amount of road money available and the increased interest in road matters, the directors of the association are of the opinion that the coming convention and show will surpass any previously held and that highway engineers, contractors and officials will attend in greater numbers than ever before.

A good idea for the paving brick people to put into action is that of informing those interested in community development that good brick-paved streets and alleys contribute materially to the improvement of town and city.





O. J. Massee, Jr.

## Making Brick in Georgia



Splendidly Equipped Plant of the Bibb Brick Company, One of the South's Finest Clay Product Manufacturing.



W. J. Massee.

THE STATE OF GEORGIA is a great empire in itself. In area, it is the largest state in the Union east of the Mississippi River. From north to south it is 306 miles in length and it is 254 miles wide. It was one of the original thirteen states, and despite the devastation of the Civil War, which left some of its principal cities in ruins, it is today one of the most prosperous and prolific of all the states, both in natural resources and in manufactured products. Its chief products are peaches, cotton and building brick.

One of Georgia's most valuable God-given assets is the immense deposits of fine clay found in almost every portion of the state. These deposits are particularly rich in the central portion of the state, so it is not surprising that Macon is fast becoming one of the chief industrial cities of the new South. In the heart of a rich country with fine railroad facilities putting her in touch with every section of the South, she is naturally a great commercial, industrial and educational center. Because of Macon's commanding geographical position, there has been much talk of making that city the capital of the state. Whether this happens or not, Macon will ever be one of the chief cities of Georgia.

Not only is Macon rich in natural resources, but she is blessed with a citizenship of unusual intelligence and enterprise. Foremost among her most progressive citizens are the Massee Brothers, who for a number of years have led the procession in the manufacture of building brick and building tile.

Realizing that the development of the state would require

an ever-increasing demand for brick and tile, they made their plans for the best equipped and most efficient brick and tile plant modern skill and the science of the industry afforded at the time the plant was constructed, in 1901. Since that time they have added improvements as the progress of the industry afforded. Today they have a brick and tile plant which averages up with the best in the land, North or South, with a daily capacity of 200,000 building brick and 150 to 200 tons of hollow building tile. They have an abundance of fine raw material which will last for generations to come. The property includes more than 300 acres of excellent river bottom clay which averages from eight to twenty feet. They use a drag line excavator which will mine 1,500 tons of clay per day. It is taken to the plant in dump cars holding from eight to twelve yards each and goes direct to the preparing machinery, no storage sheds having been provided. Two Porter locomotives are used for hauling the clay cars to mill.

They make common brick, Fisk-lock brick, and Dennison hollow tile and standard hollow tile, the latter in all sizes, all of which is made on Chambers machine. They are using two of the Keystone specials, and two of the Chicago specials with the required accompaniment of granulators, roll crushers and pug mills all supplied by the Chambers Company.

The brick and tile dryers are the special pride of the company. There are two waste heat dryers each having thirty single track tunnels designed and the equipment manufac-



General View of Bibb Brick Company's Plant.



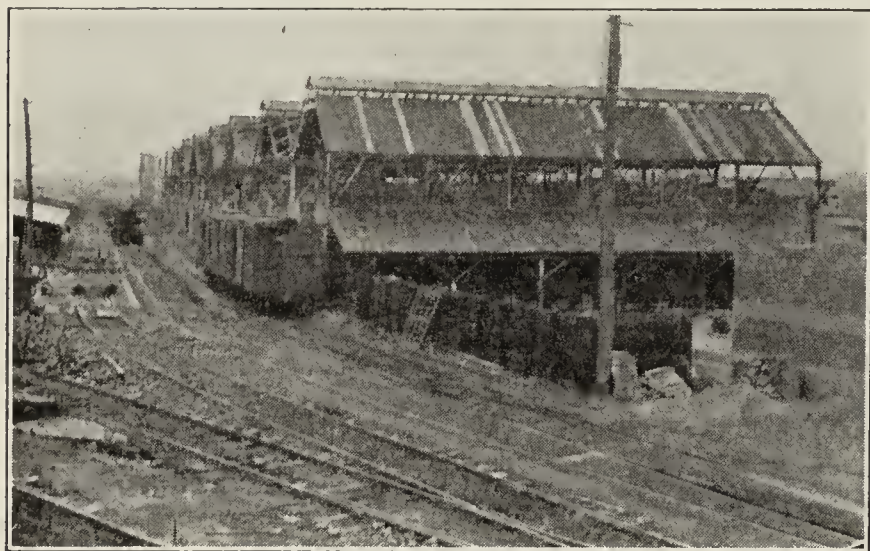
Plant Office of the Bibb Brick Co., Macon, Ga.



tured by the L. E. Rodgers Engineering Co., of Chicago. The construction is substantial and constitutes a model drying equipment.

They burn in round down-draft kilns and also up-draft kilns, having ten forty-foot kilns, five thirty-six-foot kilns, and eleven up-draft kilns. The round down-draft kilns are all equipped with the Boss system, with which they have reduced the time of burning about one-fourth with a proportionate saving in fuel, which of course is very satisfactory.

Practically the entire output of the plant is shipped by rail, going all over Georgia, Florida and into the two Carolinas. They have their own sidings running through the plant, giving them direct connection with all five of the railroad lines running into Macon. They have their own switch engines (two in number). The plant is operated by electric power (using a total of 1125 horse power) which they have found both



The Old Up Draft Kilns.



Round Down Draft Kilns, Plant in Back Ground.

economical and efficient. Visitors are always welcome, and it goes without saying that it is a pleasure to any real brick-maker to inspect a plant so well equipped and managed.

The accompanying illustrations give but a faint idea of the immensity of the plant.

#### A GOOD WAY TO BOOST HOME BUILDING

The Boonville Brick Company, Boonville, Mo., has taken a determined step toward assisting in alleviating the house shortage in Boonville and aid in putting up homes for employes of the Boonville Shoe Factory, which is to open soon, by contracting to erect three brick bungalows of moderate size. The company has purchased the necessary lots from the Boonville Development Company and has taken options on six more. The erection of the bungalows will begin at

once and they will contain five rooms with all conveniences. If the weather permits the company will build more than three bungalows this fall and in the spring will build a large number of similar dwellings, as it owns twenty lots near the shoe factory. Louis and Walter E. Gantner, owners of the brick company, declare that the need for homes next spring will be more urgent than ever.

Written for THE CLAY-WORKER.

#### AMONG PHILADELPHIA BRICK MEN.



ORK began on the erection of more dwellings in Philadelphia in September than in any month since April, 1920, when permits were issued for 535 dwellings. Last month's total is 420, bringing the year's total so far, to 1,462 dwellings, an increase of 166 over last year's figure. Predictions have been made by building men that even more dwellings will be started this month than were started in September.

The statement of the Philadelphia Bureau of Building Inspection, compiled by William Gamble, statistician, shows that 1,191 permits were issued in September, at an estimated



Loading End of No. 2 Dryer.

cost of \$4,394,570. This is an increase of \$1,616,275 over the corresponding month of last year and cuts down this year's decrease to \$20,576,960. The month's total for dwelling construction, \$1,982,735, represents about 46 per cent of the total for all classes of construction.

More than a million dollars will be expended this year by the building committees of various churches in Philadelphia for the erection of churches, chapels, synagogues and convents. This amount accounts only for all new work and does not take into consideration the vast amount of alterations and additions to churches which has been done this year. The chairmen of the building committees have heeded the words of building trade authorities that now is the time to build, and thirteen contracts, at a total of \$847,000, have been awarded to local builders since July 1.

The largest contract so far was awarded to A. Raymond Raff, builder, for a church and parish school for St. Mark's Evangelical Lutheran Church. It will cost \$250,000. This building will be of brick, glazed terra cotta and tile. The style is that of the early Renaissance of Northern Italy, similar to churches in Milan. Philip Merz designed the building.

Apartment houses are being built in increasing numbers this fall. Plans were issued the first week of this month for



a new \$50,000 apartment house to be completed before December 1. The plans are the first to be taken out by the Philadelphia Realty Company, which is said to have extensive operations planned for the next year. This new company will specialize in apartment houses and will soon begin operations in St. Martin's and Chestnut Hill costing \$200,000. William F. B. Koelle, architect, will design all the contemplated buildings.

Resumption of apartment house building indicates that the large operators consider the present level of material prices low enough to start on programs which have been held up long. Estimates of cost on the theatre and office building contemplated by the Stanley Amusement Company from eight builders have been found to be at such a figure as to allow immediate assumption of the work. All of the bids were slightly in excess of one million dollars, and it is significant of the eagerness of the master builders to get work that there was a variation of only \$16,000 between the highest and lowest estimates received, a very close margin on a job of this size.

Definite action was taken at a meeting of a committee of citizens of Atlantic City last month to proceed with the erection of a convention hall, having a seating capacity of 20,000, and to cost about \$3,000,000. Young's old pier was



Induction and Exhaust Fan of No. 2 Dryer.

selected as the site. The pier company will aid in financing the project.

A slight decrease in prices featured the opening of bids by Director Caven for improving the highways near the city, the estimated cost of which is \$650,000. The principal items were for paving, some of brick, of streets in all sections. Bids were received recently by Director Sproule, of the Department of Wharves, Docks and Ferries, for construction of a superstructure for the Chestnut Street Pier of the Delaware River bridge.

Contract for the erection of a bank building at Sandbury, Pa., for the Sunbury Trust and Safe Deposit Company has been awarded to the John R. Wiggins Company, Inc., of this city. The cost will be about \$250,000. The Wiggins Company is also erecting a million dollar hotel at Bethlehem, Pa.

Brick and refractory men are sharing in the improvement of the building industry. There is talk of several new refractories and already one has come into being at Blakely, Va., the Anthracite Refractories Company, owned by D. J. Beardslee and incorporated at \$150,000.

The Business and Financial Conditions Report of the Third Federal Reserve District, written by Richard L. Austin, chairman, includes the following comment on building brick and refractories:

"A few manufacturers report a slight increase recently in

the demand for brick, such as was to be expected about this time of the year; but many others express the opinion that, although there is a distinctly better feeling in the trade, the number of actual orders being received is no greater than it has been for some time.

THE QUAKER.

#### BRICK COMPANY GRANTED CHANGE OF VENUE

The A. P. Green Fire Brick Co., of Mexico, Mo., has secured a change of venue from Callaway county to Randolph county in the \$5,000 damage suit of Henry Diehl of Fulton, in which Diehl seeks to recover damages for the alleged loss of services of his son, August Diehl, and for payments made for medical services, after the boy had been injured by the explosion of a dynamite cap. In a previous suit in Mexico a



Cooling End of No. 1 Dryer.



Loading Track and Cooling End of No. 2 Dryer.

verdict of \$10,000 was returned in favor of the boy against the Mexico company for injuries received in the accident. The dynamite cap was picked up at the fire clay pit that was operated in this city by James Reed, who was furnishing the material to the A. P. Green Company. In its defense the brick company contended that Reed was an independent contractor and that the company was not liable for damages. The suit was instituted under the statutes that prohibits the throwing away of dynamite caps that have failed to explode. The Diehl boy picked up the cap when he took the dinner of his father, who was employed at the clay pit. One eye was destroyed and the other became affected to such an extent that he is practically blind. The boy is about eight years old.

It's time to hang out those "Build with Brick" signs.



AMERICAN BRICK GO TO ALL PARTS OF THE WORLD—  
BUILD UP TRADE ALREADY ESTABLISHED,  
SAYS DEPARTMENT OF COMMERCE.

THE DEPARTMENT of Commerce has just issued detailed statistics for the calendar year 1920 showing the world-distribution of American-made brick. The information contained in the report will doubtless be of much interest to our manufacturers as showing those countries which have provided our best markets, and which, it is reasonable to suppose, will again buy largely once trade conditions become stabilized.

The Bureau of Foreign and Domestic Commerce points out that, while new foreign markets for our brick products will doubtless develop, we will do well to cultivate the trade of those countries which know our products in this line, and which we have demonstrated our ability to serve. This will be the first move in what we may accomplish as the brick supply source for those countries which import brick. That these are not a few may be judged by the fact that in the year 1920 we shipped building brick to twenty-five foreign

countries and fire brick to fifty-eight countries—practically all the civilized nations in the world, as far away as British India and the heart of Africa, Australia, New Zealand and Indo-China.

The following tables will show the distribution of United States brick in the year named, as compared with 1919:

It will be noted that, while our best export market for both building and fire brick has been Canada, the country showing the greatest percentage of gain in 1920 over 1919 is Cuba, the latter country purchasing nearly five times the quantity of building brick in 1920 to that taken in 1919, while of fire brick it considerably more than doubled its purchases. Likewise Mexico, Dominican Republic, Chile and many other countries show big jumps. In some instances, it will be noted, several of the European countries decreased their imports of American brick.

ALFRED T. MARKS.

| BUILDING BRICK.                | 1919           |                   | 1920           |                   | FIRE BRICK                     | 1919           |                  | 1920           |                   |
|--------------------------------|----------------|-------------------|----------------|-------------------|--------------------------------|----------------|------------------|----------------|-------------------|
|                                | Quantity<br>M. | Value<br>Dollars. | Quantity<br>M. | Value<br>Dollars. |                                | Quantity<br>M. | Value<br>Dollars | Quantity<br>M. | Value<br>Dollars. |
| Rumania.....                   |                |                   | 36             | 2,268             | Panama.....                    | 259            | 20,127           | 443            | 25,140            |
| United Kingdom—England...      |                |                   | 9              | 270               | Salvador.....                  | 6              | 647              | 18             | 2,068             |
| Bermuda.....                   |                |                   | 2              | 40                | Mexico.....                    | 171            | 206,800          | 11,094         | 527,625           |
| Canada.....                    | 9,569          | 195,569           | 5,285          | 178,067           | Miquelon, Langley, etc.....    | 1              | 63               |                |                   |
| Guatemala.....                 | 2              | 70                |                |                   | Newfoundland & Labrador...     |                |                  | 11             | 2,477             |
| Honduras.....                  | 24             | 548               | 34             | 652               | Jamaica.....                   | 22             | 3,032            | 37             | 3,182             |
| Nicaragua.....                 | 20             | 750               |                |                   | Trinidad and Tobago.....       | 22             | 2,100            | 72             | 7,041             |
| Panama.....                    | 1              | 60                | 96             | 3,351             | Other British West Indies....  | 19             | 1,561            | 1              | 200               |
| Mexico.....                    | 1,436          | 23,754            | 4,225          | 96,730            | Cuba.....                      | 6,986          | 339,660          | 13,846         | 762,863           |
| Newfoundland & Labrador...     | 3              | 138               | 41             | 1,975             | Dominican Republic.....        | 586            | 41,231           | 1,386          | 102,187           |
| Barbados.....                  | 10             | 331               |                |                   | Dutch West Indies.....         | 2              | 101              | 23             | 920               |
| Trinidad and Tobago.....       | 165            | 3,380             | 110            | 5,911             | French West Indies.....        | 11             | 3,000            | 13             | 1,120             |
| Other British West Indies..... |                |                   | 43             | 446               | Haiti.....                     | 21             | 3,747            | 39             | 3,553             |
| Cuba.....                      | 456            | 8,745             | 1,057          | 38,516            | Virgin Islands of U. S.....    |                |                  | 52             | 5,146             |
| Dominican Republic.....        | 274            | 9,031             | 1,252          | 40,250            | Argentina.....                 | 216            | 17,415           | 511            | 39,178            |
| Dutch West Indies.....         |                |                   | 71             | 1,120             | Bolivia.....                   | 1              | 143              |                |                   |
| Virgin Islands of U. S.....    |                |                   | 183            | 4,142             | Brazil.....                    | 120            | 12,884           | 222            | 21,820            |
| Argentina.....                 | 4              | 890               | 119            | 4,345             | Chile.....                     | 362            | 44,483           | 654            | 118,903           |
| Brazil.....                    | 29             | 1,549             | 45             | 724               | Colombia.....                  | 19             | 1,926            | 127            | 10,404            |
| Chile.....                     | 72             | 856               |                |                   | Ecuador.....                   | 69             | 6,540            | 24             | 3,183             |
| Colombia.....                  |                |                   | 26             | 1,669             | British Guiana.....            | 16             | 978              | 10             | 535               |
| Ecuador.....                   |                |                   | 4              | 75                | Dutch Guiana.....              | 8              | 780              | 86             | 3,401             |
| British Guiana.....            | 85             | 2,720             | 20             | 160               | Paraguay.....                  |                |                  | 24             | 3,645             |
| Dutch Guiana.....              |                |                   | 180            | 1,440             | Peru.....                      | 299            | 65,677           | 416            | 60,549            |
| Peru.....                      |                |                   | 5              | 130               | Uruguay.....                   | 36             | 2,671            | 83             | 9,165             |
| Venezuela.....                 | 10             | 105               | 3              | 180               | Venezuela.....                 | 9              | 841              | 113            | 12,889            |
| French Oceania.....            | 9              | 194               | 17             | 353               | China.....                     | 296            | 53,439           | 1,206          | 58,326            |
| Total.....                     | 12,169         | 248,690           | 12,863         | 382,814           | British India.....             | 40             | 5,066            | 240            | 17,508            |
| FIRE BRICK.                    | M.             | Dollars.          | M.             | Dollars.          | British Straits Settlements... | 86             | 7,858            | 3              | 1,750             |
| France.....                    | 10             | 5,712             | 114            | 3,455             | Dutch East Indies.....         | 316            | 15,773           | 6              | 595               |
| Greece.....                    |                |                   | 7              | 275               | French Indo-China.....         | 2              | 459              |                |                   |
| Italy.....                     | 1,041          | 104,264           |                |                   | Hongkong.....                  |                |                  | 1              | 1,471             |
| Netherlands.....               |                |                   | 5              | 456               | Japan.....                     | 107            | 19,801           | 232            | 45,870            |
| Norway.....                    | 4              | 435               | 2              | 215               | Australia.....                 | 334            | 46,657           | 118            | 6,519             |
| Rumania.....                   |                |                   | 173            | 12,423            | New Zealand.....               | 52             | 2,067            | 15             | 817               |
| Spain.....                     | 32             | 14,410            | 17             | 1,992             | Other British Oceania.....     | 7              | 287              |                |                   |
| Turkey in Europe.....          |                |                   | 7              | 550               | French Oceania.....            | 9              | 456              | 6              | 415               |
| United Kingdom—England...      | 176            | 5,086             |                |                   | Philippine Islands.....        | 187            | 14,743           | 495            | 33,448            |
| Bermuda.....                   | 3              | 228               | 10             | 607               | Belgian Kongo.....             | 1              | 17               |                |                   |
| Canada.....                    | 34,170         | 1,667,220         | 50,230         | 2,250,434         | British South Africa.....      |                |                  | 39             | 4,944             |
| Costa Rica.....                | 8              | 747               | 13             | 1,206             | French Africa.....             | 1              | 31               |                |                   |
| Guatemala.....                 | 27             | 1,882             | 13             | 1,761             | Italian Africa.....            | 1              | 31               |                |                   |
| Honduras.....                  | 44             | 1,801             | 103            | 2,836             | Portuguese Africa.....         |                |                  | 135            | 8,396             |
| Nicaragua.....                 | 37             | 2,635             | 75             | 6,803             | Total.....                     | 51,252         | 2,747,512        | 82,570         | 4,200,266         |



Written for The Clay-Worker.

BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.



BUILDING OPERATIONS in Evansville and other towns in southern Indiana are quite active at this time and brick manufacturers, as well as contractors, are looking for things to continue to boom until the setting in of bad weather.

The brick manufacturing plants in the city of Evansville are operating on full time and the manufacturers report that they have many unfilled orders on the books. John Andres, the secretary and treasurer of the Standard Brick Manufacturing Company, reports the company's three plants are running with full forces and that the outlook for business is more promising now than it has been at any time during the present year. The east side plant of the company started up work on September 1, after a shut-down of three years. The First Avenue plant had been closed after a shut down since November of last year. The tile plant of the Standard Company is rushed with orders for tiling. Farmers are among the late new users of tiling in large quantities, the officials of the company say, many farmers in southern Indiana, southern Illinois and western and northern Kentucky taking up big irrigation and drainage projects within the last year. "We are getting about all the business we can do," is the way Secretary Andres expressed it. "Building is picking up and the demand for brick is getting better all the time. We look for a great deal of building the rest of this year and a lot of it next year and we are mighty well pleased with the outlook."

Building in Evansville showed a big increase in the month of September over the corresponding month of last year, according to the report of Edward C. Kerth, city building inspector. There were 111 permits totaling more than \$116,000 in September of this year as compared to 75 permits totaling a little over \$60,000 issued in September of last year. This is an increase of a little over \$56,000 over September 1920. There are at the present time 178 houses under construction in the city of Evansville and most of them are residences. Some of them are being constructed of brick. This was the information brought out at a meeting of the Evansville Real Estate Board a few days ago. More building has been done in Evansville and other southern Indiana towns this year than last year. Considerably more building is being planned and contractors and building material men believe that they will have about all they can do the balance of the year, or until cold weather sets in. At the meeting of the Real Estate Board, Daniel Wertz, of the Maley & Wertz Lumber Company, said that in his opinion the price of lumber will be higher next year than it is this year.

Plans are on foot for the erection of a ten-story office building at the corner of Main and Sixth Streets in Evansville. The building will be erected by Evansville capitalists and a department store will occupy the ground floor and the first and perhaps second story of the proposed building. Work on the new Cadick Theatre, at the corner of Sycamore and Third Streets in Evansville is going forward and the structure ought to be completed some time early next year, at an estimated cost of one million dollars. Work also is progressing on the new administration building and gymnasium of the Evansville College, the buildings to be completed and ready for occupancy early next year. While these large jobs are being completed, more residences are being planned. Rents are still high in the city of Evansville, but with the building in sight for the coming year it is expected there will be a lowering of rents in 1922.

Rents are exceedingly high in Boonville, Ind., as the result of shortage of houses. A building and loan company was organized in Boonville recently and it is expected that the new association will be an important factor in the building of many homes during the coming year. Work on the new opera house at Petersburg, Ind., has stopped and work on the new Pike county court house in that city is likely to stop, as the contractors say they are unable to get sufficient rough brick to continue the work. Hundreds of thousands of brick are needed for the new buildings being erected in that place. Petersburg has enjoyed a big building boom this year, the greatest in its history. There also has been a great amount of building at Oakland City, twelve miles south of Petersburg.

Mrs. Henry Kleymeyer, 72 years old, mother of Henry C. Kleymeyer, president of the Standard Brick Manufacturing Company, and president of the Evansville Chamber of Commerce, died at her home at Henderson Ky., a few days ago. She had been in failing health for the past two years and a few days before death claimed her, she suffered a paralytic stroke from which she never regained consciousness. Mrs. Kleymeyer was a woman of fine Christian character and is mourned by many friends. She is survived by her husband, one son and four daughters. One of the surviving daughters is Mrs. Andres, wife of John Andres, secretary and treasurer of the Standard Brick Manufacturing Company at Evansville.

A. HOOSIER.

RANDOM NOTES.

The National Fireproofing Company plant at Port Murray, N. J., is again in operation, after being idle nine months. At present fifty-three employees are on the rolls.

A notice of organization has been filed by the Roseville Pottery Co., of Roseville, Ohio, for operation in New York. Mr. M. T. Scott, at 621 Fifth avenue, New York City, is local representative.

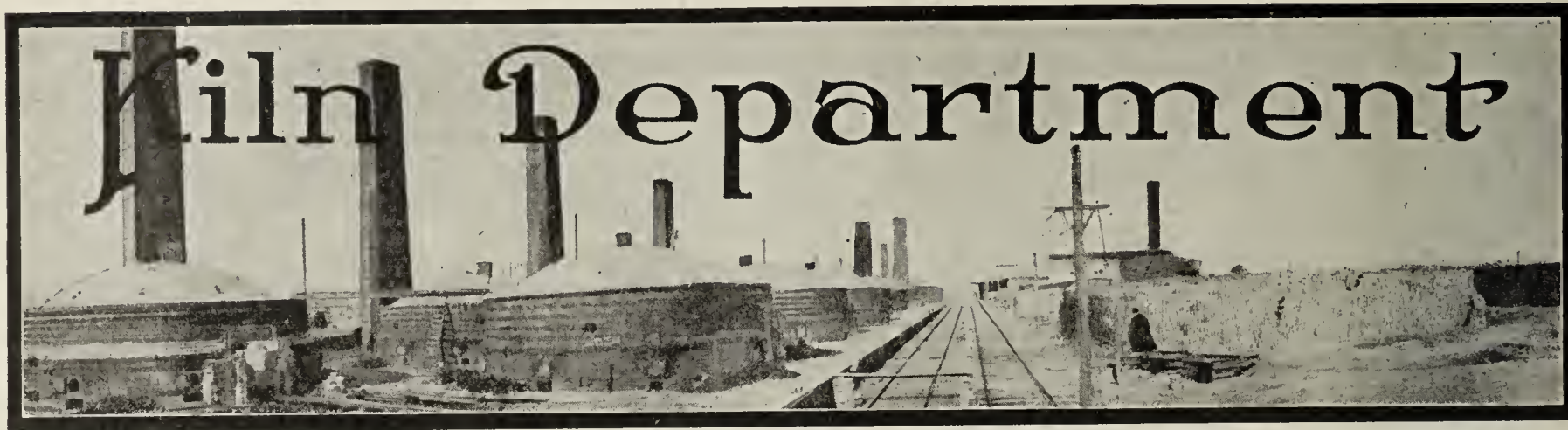
It is reported that the Perth Amboy Tile Works, at Perth Amboy, N. J., is producing fair-sized quantities of the better grade of floor tile and ceramics. A number of improvements have been made during the past period of slack times, that will bring the different departments up to a higher point of efficiency. According to August Staudt, president of the company, the outlook is very bright.

One of the new members of the executive committee of the American Valuation Association is B. E. Salisbury, president of the Onondaga Pottery Company of Syracuse, N. Y., and president of the United States Potters' Association. This association has been formed to advocate the adoption of the proposed plan to base import taxes on the value of the goods at American port of entry.

Milton A. Edgar, of Metuchen, N. J., of Edgar Brothers Company, clay miners, appeared before the Senate Finance Committee at Washington, D. C., at a recent meeting to make a plea for a higher duty on imported clay and kaolin. He asked that the duty be increased to \$6.00 a ton, against the rate of \$1.25 in the present Underwood tariff act and the \$2.50 rate as proposed in the new Fordney bill. Mr. Edgar represented the American Clay Producer's Association, the membership of which represents clay properties in the Carolinas, Georgia and Florida.

The right viewpoint to take toward the winter meetings of the industry is that of considering attendance at them as a part of your business duty.





The Muffle Vs. the Direct Fired Tunnel.

Editor The Clay-Worker:

I have read with much interest the article signed "Truth Seeker," who takes exceptions to some of the statements that I made in my previous articles on the R. R. kiln.

In his second paragraph, he asks to be shown some installation of a muffle kiln successfully burning coarse ware, and in this connection will say that some time back, I spent a number of days at the plant of the Franklin Brick and Tile Company, of Taylor Station (Columbus) Ohio, and saw in successful operation at that place a muffle tunnel kiln burning drain and building tile, and was shown some building brick that had been run through as a test, although the kiln was built for and was turning out drain and building tile, both articles being made out of an ordinary shale.

At the time that I made my visits to this installation, the kiln had been in operation about a month, and they were getting very good results.

They had the usual starting trouble, which is incidental to getting any new plant or new kiln started, but soon got running satisfactory.

I watched them place and draw numerous cars, all of which are numbered and a detailed temperature record taken and kept of each car as it progresses through the tunnel, and the records showed that the heat was at all times under control, and I saw cars of tile pulled out that were so closely matched for color, that it was impossible, after taking some from the top of the car and some from the bottom of it, and placing them side by side, to tell which was which. The tile were perfect and there was not a burning blemish of any sort on them, some being chipped a little from careless handling while they were in the raw or green state, but the burning end of the job was about as good as it is humanly possible to get it.

In his third paragraph he asks how these heavy cars are to be handled, and in this connection will say that they have a little gasoline tractor that pushes and pulls them almost anywhere they want them, and while the transfer track is not run out to the loading track, yet there is no reason why it should not be extended to it, and the kiln cars shoved into the doorway of the railroad or box car, and unloaded direct in the car.

The same thing will apply in the placing of cars in stock, and as the kiln burns only one color of tile, this is a splendid thing to get rid of the expense and nuisance of sorting. The kiln had been run on both, reducing and oxidizing, but the demand was for a clear red tile, so in practice, it was run that way.

In the manufacture of face brick, the question of sorting will be pretty much simplified, for the sure control of the heat makes it practical and possible to get any shade desired

—and as many of that shade as may be required to stock or ship. In the last part of his third paragraph, that one great objection to the tunnel kiln, even if it could be practical for burning, is that it makes modern systems of economical handling of brick impossible. Far be it from such, it makes it all the easier, in fact, eliminates a lot of the loose ends that are ordinarily seen on a plant of the old type—in fact if it does not do this it does nothing at all, and its adaptability to modern labor-saving methods is considerable easier than the old type of kilns are, either period or continuous. In other words, just the reverse of his statement is true.

Referring to his fourth paragraph, in which he states that at the New York convention some man named Mr. Whitescarver gave an account of the failure of a tunnel kiln to burn common brick. I do not question that a bit, for I am personally acquainted with dozens of installations that have been failures, and some of them have financially wrecked the companies that built them, and while I was not at the convention and know nothing of what type of kiln the gentleman referred to, if you will take the trouble to investigate, you will find that it was NOT a muffled fired kiln.

I also take exception to his statement in which he states in this same paragraph, "It will also be remembered that the representative of the muffle kiln to which Mr. Williams refers," if the gentleman can show me at any place in any of my articles where I have referred to any particular make of direct fired or muffled kiln, I will be glad to have him point it out to me. I am speaking generally of railroad kilns, and not of any one particular make or design, and use the term "muffle" and that of "direct fired" only in its broadest and most general sense.

Regarding his comments in the last part of the fourth paragraph, in which he states that I come along a couple of months after the aforesaid man who represented the referred to muffle, and say that the kiln is a positive success; will say that I do not know who the representative of this company was, or what company that he represented, but the kiln that I mentioned in the first part of this article was started up some time this spring, and to the best of my knowledge, it is the FIRST muffled type of R. R. kiln burning common shale ware, so that the gentleman who represented the aforesaid company whoever he was, was correct in his statement that there was no muffled kiln at that time in operation burning brick or tile.

Regarding the fifth paragraph of his article, if he will visit the above mentioned plant, and spend a little time in personal investigation, I think that he will materially change most of his ideas on the muffle type of the R. R. kiln.

I hold no brief for any kiln builder, either of a direct fired one or a muffled one, and it was my purpose, and is now, to caution any manufacturer from building any kind of a kiln, regardless of whether it was a muffled or a direct fired type,



and I feel that if they will do this, and not take the word of any kiln salesman, regardless of whom he represents, they will save themselves a lot of money and gray matter.

A muffled kiln is now under fire at one of the Bradford (Pa.) plants, and is burning, or will burn as soon as they get the heat up, shale products in the coarser building wares.

It is the purpose of this article to caution the prospective kiln builder to "GO SLOW" in building—be sure you are right, then go ahead. These kilns run in cost from \$75,000 to \$100,000 and a man spending that amount of money, must be careful. Don't try to build your own kiln, unless you are an expert kiln builder and understand the principle and theory of heat, but consult some of the larger responsible kiln companies, then look at what they have to show, and then form your opinion as to whether or not you want one, and which one that you want.

In the manufacture of dry press bricks, the R. R. kiln offers a greater reduction in operating costs, than it does on stiff mud products for the reason that in a properly designed and built kiln, dry press brick can be loaded on the kiln cars at the off-bearing table, and not touched again until they are shipped or placed in stock, while in any form of stiff mud product, after the bricks or whatever else is used, is dried on dryer cars, the ware must be transferred to the insulated kiln cars.

There is no question but what a properly designed and built R. R. kiln will, in the course of a very short period of time, pay for its cost in reduced operating expense, and it is only at this time, that the kilns—that is some of them—can be said to be out of the experimental class, have become standard workable installations.

I hope that I have cleared up any doubts in the mind of the gentleman who signs himself "Truth-seeker" in the September issue.

Yours very truly,

JAS. P. WILLIAMS.

#### SUIT TO SETTLE ROYALTY CLAIM.

The Bonnot Company, Canton, manufacturers of clay-working machinery, has filed answer to the suit of Austin A. Holbeck, who seeks to collect royalties estimated at several hundred thousand dollars. Mr. Holbeck is inventor of coal pulverizing machinery manufactured by the defendant company and in his suit he alleged that he had been furnished incorrect statements of the earnings from his patents and asked for an accounting.

The company says in its answer that it paid Holbeck more than \$100,000 in royalties from February 27, 1919, to October 30, 1920, in addition to a salary and asserts that this represents his full share of the earnings under the contract with the firm. All statements rendered have been accurate, the company says, and the books and records have been open at all times for Holbeck's inspection.

#### CHRISTMAS SEALS.

The first harbinger of the coming Christmas holidays reaches us in the form of propaganda for Christmas seals sent out by the National Tuberculosis Association. It is a sure sign that vacations are over and that Christmas is coming, and we should not only do our shopping early, and all that, but we should give a thought to the less fortunate of mankind who may need help, and especially may need help in restoring better health. Some advance thoughts of this kind now should put us in that frame of mind which will make us duly thankful when the annual day of Thanksgiving rolls around.

## CLEVELAND TO HAVE BIG BUILDING SHOW.

The exclusive building show idea originated in Cleveland, and is being perfected there. Next January, from the 4th to 14th, inclusive, The American Building Show will be staged in the new \$5,000,000 municipal auditorium, its first public attraction. Sponsored by the Builders Exchange of Cleveland, which boasts the largest membership of any organization of its kind in America, the exposition will profit only the exhibitors, to whom all earnings will be rebated pro rata according to the amount of space they bought.

Stimulation of building interest for the coming spring building season is the animating inspiration of the show. Six years ago Cleveland building material men backed a similar show, and that year was the greatest in a building way in all Cleveland's history. Coupled with Cleveland's tremendous shortage in housing facilities and the growing interest in building, the exposition is expected to have much the same effect upon local construction records next year. Last year the building investment in Greater Cleveland exceeded \$78,000,000.

Both floors of the mammoth new municipal auditorium will be used. The Arena floor, which is the convention hall proper, will be devoted to the display of exterior structural materials, real estate, architecture, engineering and financing. The Main Exposition Floor, which is especially equipped for exhibition purposes, will house all that goes inside a building, from the interior decorating, finishing and furnishing, to every feature of equipment for the purpose of ornamentation, convenience and comfort. Here also will be a machinery department.

On the Arena floor will be shown perhaps eight or ten finished cottages and bungalows in brick, frame and stucco. A ceiling height of 60 feet affords ample room for exceptional exhibits. Two brick exhibits will tell the story of this material at a combined space cost of more than \$21,000. Other exhibits will be upon the same elaborate scale.

The well-remembered success of the initial First National Complete Building Show of 1916, coupled with the non-profit plan of this one, is producing an unexpectedly heavy demand for space. More than 50 per cent of all the available exhibit room has already been taken. Many exhibitors from a distance, who participated in the first show, wired in their reservations immediately upon receipt of the floor plans. Locally the interest is exceptionally keen.

National interest in the show will be materially increased by the decision of the Associated General Contractors to hold their next annual convention in Cleveland during the week of the exposition. The National Federation of Construction Industries will likewise hold their annual convention here at that time, as will the Ohio Association of Builders' Exchanges. Other allied organizations are expected to follow suit. These will provide a valuable addition to the normal attendance.

Ralph P. Stoddard, who managed the 1916 show, is director general of the exposition, and Richard G. Collier is assistant manager. Both were associated with the Second National Complete Building Exposition held in New York in 1917.

#### BRICKLAYERS ON BATTLESHIPS.

One would scarcely expect to find bricklayers on a battleship. Nevertheless several are borne on the books. They build walls—in the throats of the great furnaces, where the constant succession of terrific heat burns away the firebricking like so much charcoal.





#### TESTIFIES TO DURABILITY OF BRICK PAVEMENTS.

**I**N A LETTER to Dependable Highways, Mr. Walter W. Graf, City Civil Engineer of Lancaster, Ohio, gives details which tell a remarkable story of the durability of brick as a street surfacing material. Mr. Graf's letter follows:

"In the spring of 1888 Lancaster paved its first hard surfaced street, South Broad Street, with 2½x4x8-inch brick on an 8-inch local gravel base and a 1½-inch sand cushion with bituminous filler.

"It is said by the old residents that neither the gravel base nor sand cushion was rolled, but that the brick were placed on the loose base and rolled with a wooden roller weighted down with pig iron. This street has had probably the heaviest traffic in the city as all of the freight for several large manufacturing concerns, one a foundry, has been hauled over this street for the last 33 years.

"All of the traffic seemed to keep on a beaten path much as it does on a country dirt road. This was owing to the fact that a street car track divides the roadway down the center and also to the fact that, following the early practice, the crown was built unnecessarily high. This tracking in one path tended to centralize rather than distribute the weight, impact and wear and tear. As a result the foundation as constructed proved unequal to the task and the pavement became rough in the traffic tracks.

#### 33-Year-Old Brick in Prime of Life.

"Repaving was ordered. When the work was begun this department had no idea that the old brick would be of any value and a steam shovel was started through them. Upon cutting into them it was discovered that many of the bricks in the traffic tracks, though worn down in some instances to not more than an inch in thickness, were still unbroken. This speaks very well for brick as a type of pavement for heavy traffic.

"It also was discovered that a great many of the brick were still in excellent condition and these were ordered piled up along the street by Service Director Ernest Rowles. Very soon came a demand for the old brick to pave alleys and Director Rowles agreed to furnish the brick to property owners who would agree to pave any alley at least one block long. There was a scramble for the brick and they were all hauled away before the contractor had a chance to pile them up,

property owners sending teams and trucks on the street, assorting and hauling them away as fast as they were dug loose.

"The property owners employed Mr. Carl Garling, a local contractor, to do the construction work and this department furnished the necessary engineering without cost to the property owners. Mr. Garling did the work on a cost-plus basis which was pro-rated on the abutting property according to the frontage on the alley.

"The paving was done as follows: 5-inch rolled gravel base, 2-inch sand cushion and sand filler. The rough side of the brick was turned down. With an average of about one foot of grading to do, the cost per abutting foot was about 60 cents for a nine-foot alley.

#### Long Life Predicted.

"It is the opinion of this department that the improvement is good for 50 years under alley traffic conditions. This means a service life for the brick of 83 years. Director Rowles stated the other day that if we repaved any more brick streets that all of the used brick already had been spoken for."

#### PAVING BRICK OUTWEARS OTHER MATERIALS.

Twenty-five years ago Meadville, Pa., now a city of about 15,000, used vitrified brick on its first hard surfaced street, says Dependable Highways. Twenty-one miles of brick streets have been constructed since. All of this mileage is still in service except a stretch of a little less than 600 feet which might be said to have suffered a "complication of diseases." Otherwise the maintenance cost has been "practically nothing" according to R. L. Phillips, City Engineer.

Only one other surfacing material has been used in Meadville— asphalt block on a stretch of 0.6 miles. This was laid only 14 years ago and is so worn today that its repaving in the near future is a necessity.

This year 62,000 yards of new brick streets were constructed of this type: Asphalt filled 3-inch plain wire-cut brick on a 5-inch 1-3-6 concrete base and sand cushion. The contract price of the pavement from curb to curb, exclusive of the curb but including the grading and all other expenses, was \$3.85 per square yard.

A lot of folks are fussing about their rights who ought to be thinking about their duty.



## OWN YOUR HOME SHOW IN CHICAGO.

WILL THE TIME come when a frame house will be a curiosity? 'Tis said this is a question about which this or the next generation need have no anxiety, and with proper conservation of timber, frame houses will continue to be built for another century. Most authorities agree, however, that the basic cost of a frame house has reached its low level, and from now on the trend of frame construction costs will be upward, always increasing as the timber supply decreases.

Brick, hollow tile, cement and other manufactured building materials are bound to play an increasingly important part in residential construction. This fact is reflected in the increasingly important part these materials play in building exhibits and Own Your Home Expositions. Brick is a very ancient building material, and it will probably continue in vogue as long as the earth lasts and is peopled by life which requires shelter. Hollow tile and cement, as building materials, are but toddling infants, at the very beginning of their career and the next 25 years are bound to see spectacular developments in their use.

As the demand for fire resistive construction becomes more insistent science will find the way to adapt present and new materials to the demand and the imperative necessity for low costs in home construction will bring new methods of production and new uses for materials which will cut down the cost of building.

There is no better index of current developments in these fields than the exhibits in a modern building exposition. Last year, in the Chicago and New York Own Your Own Home Shows, brick, tile and stucco occupied as conspicuous a place as did any other feature, and it is predicted that these will be even more conspicuous in the building exposition to be held soon in Cleveland, and the Second Annual Own Your Own Home Show, which opens in the Coliseum in Chicago, March 25, 1922.

Aside from the service such expositions render for the public, they offer the material manufacturer an excellent opportunity to show, in tangible form, the possibilities of a given production. Salesmanship more and more becomes a matter of getting the "complete picture" before the prospective buyer. Often the sales difference between a sample brick and an attractive picture of a brick house is just the signature on the contract; the difference between a sack of cement and a stucco bungalow in salesmanship often is the order. Take the prospective home builder to a pile of brick or a sack of cement and talk until doomsday and you cannot visualize a brick house or a stucco bungalow, but show him a brick house or a stucco bungalow and he doesn't have to use his imagination on an impossible task.

The more exhibits showing the real possibilities of these materials—the more homes in which they will be incorporated. As an educational opportunity the Home Shows are a real asset to the material producer.

Something new in the apartment line in Chicago is contemplated by J. L. Jordan, who has had plans for a \$400,000 family apartment building at 4537 Drexel boulevard prepared by Architect John Archibald Armstrong, in which parents and their children are to be especially welcomed as tenants, contrary to the customary attitude of many Chicago landlords. A big play-room is to be provided with a completely equipped gymnasium in the basement. Caryl Court is to be the name of the structure and it is to be of brick and stone construction in the Colonial type of architecture.

## OBITUARY.

Death of J. J. Koch, St. Louis.

THE "SILENT MESSENGER" came very unexpectedly to Julius J. Koch at his home in St. Louis. Apparently in good health, he was stricken with acute indigestion Sunday, October 9, and died the following day. He was laid away with Masonic honors. His death is a great loss to the clay-working craft, for which he had labored through the columns of The Clay-Worker for many years. His writings were always valuable, because practical. In early life he was a brickmaker and, being trained in scientific lore, he devoted much study and research to the technical side of the industry, bringing to bear the knowledge gained by actual experience in plant production. His final offering to The Clay-Worker appears on another page of this issue and in spirit breathes something of the sincere faith and affection he had for the National Association. Few members have studied the reports of the conventions as did Mr. Koch. He found in the printed proceedings of the N. B. M. A. meetings an unfailing source of information and gave back to the craft



The Late Julius J. Koch.

much valuable information through his contributions to The Clay-Worker. His untimely death is an irreparable loss.

Mr. Koch was born in Germany, came to this country when twenty-two years of age, and was sixty-nine years and seven months old when he died. His first connection with the brick business in St. Louis was as shipping clerk for the Hydraulic Press Brick Co. Afterward he was given full charge of the enameling department, his knowledge as chemist standing him well in hand for that work. In subsequent years he was employed by a number of the leading face brick manufacturing concerns and finally retired from active business in 1915, since which time he has devoted most of his time and attention to his work as correspondent of The Clay-Worker.

### NEW JERSEY BRICKMAKER DIES.

Mr. Edwin Schmults, a well known and influential brick manufacturer of Hackensack, N. J., passed away very suddenly at his home in Hackensack recently. Mr. Schmults was in charge of one of the oldest brick plants in the Hackensack valley. The plant was established more than fifty years ago by his father, Mr. John Schmults. His death came as a shock to his many friends and relatives.

Perversity is that streak in human nature which prevents us from knowing when we are well off till we are not.



## THE TRADE QUIZ BOX.

*Many readers of The Clay-Worker are wont to ask the editor for information on various matters pertaining to the brick and tile business. Usually such questions are answered by letter on the theory that the party asking the question is the only one particularly concerned, but many times the queries are of a general character and cover points in the trade in which the general reader may be interested, so we have inaugurated a Trade Quiz Box. Under this head, questions and answers will be given and any reader who can give further particulars in response to any particular query, or desires information on any phase of the business, is invited to make use of this department.*

### PROPER DIMENSIONS FOR MUFFLE KILNS.

**QUESTION:** I have read with interest J. P. Williams' article in the August issue of The Clay-Worker, but would like some further information.

Please advise about what length fire zone is necessary for a muffle kiln (railroad tunnel kiln) for burning a common shale fireproofing 1700 to 1800 degrees, and of what material should the wall be that forms the muffle, that is, how thick should the fire clay slabs or brick be that divide the kiln from the fire box.

How many fire boxes would you think advisable and about how many burners would be necessary, using 24-26 gravity fuel oil, and about what quantity would each burner burn in 24 hours?

**Answer:** It would be quite impossible for me to answer your questions without seeing your material and knowing more in detail about its preheating, watersmoking, cooling and many more of its characteristics.

The building of a tunnel kiln involves quite a lot of data that cannot be secured anywhere else but at the place where you are going to build the kiln. In addition, there are a lot of features on kilns that are patented, and one must be very careful, otherwise litigation will result.

If you are figuring on building a tunnel kiln, my services as a consultant and adviser in that line are at your disposal, at a fee of \$25.00 per day, all parts of days counted as whole day, time figured from the time I leave my office until I get back. In addition to this, my expense, traveling and hotel, etc., would have to be defrayed.

J. P. W.

### BURNING HOLLOW TILE IN TUNNEL KILNS.

**QUESTION:** We have a tunnel kiln of our own design which is a direct fired, and we are attempting to burn hollow building tile which is made from surface clay and shale combined. We wish to burn to about 1700 or 1800 degrees. We operated this kiln about 60 days last year with four oil burners, using steam to atomize. The blocks came through in fairly good shape with the exception of being a little soft on top and sometimes they were flashed on the sides, but our main difficulty was the blocks two or three tiers high on the bottom of the cars were invariably cracked. We are of the opinion that we stepped the heat up too fast somewhere between the charging end and the fire.

The articles in recent issues of The Clay-Worker have been interesting and it occurs to us some of the men who have been writing them might be able to give us further information.

**Answer:** If I might venture a few remarks, the margin of safe operation of any tunnel kiln for common clay wares is very small, and to locate any trouble it is necessary to know in detail all circumstances concerning operation and design of kiln in question. However, in my opinion, the introduction of steam into an open fired car tunnel kiln is a mistake, since I believe the trouble goes back to the water-smoking period where we are so extremely anxious to get rid of all water or steam and which has to be done in a very short time, indeed, in a tunnel kiln, even for hollow ware.

Again, it might be that changes are possible within the furnaces or sides along the hot zone or around the burners to equalize the characteristic local heat application of oil fuel, or to direct the current in such a way that the top of the kiln will receive more heat and the bottom less heat than you are getting now.

And again, you might find that the only way to save your ware is to go correspondingly slower through the kiln with your cars, or, in other words, curtail the kiln output.

E. T. TRACY.

### ON HELPING THE OTHER FELLOW.

John M. Stoner, of the Cincinnati (Ohio) Clay Products & Supply Company, has some philosophy which might well be adopted by every other clay products manufacturer in the country, for it is wholesome and good medicine for all. Its application will cure many aches and troubles. This tonic philosophy is styled "Helping the other fellow."

The features of particular interest about Mr. Stoner's philosophy are: "Get acquainted with the other fellow. You may like him," and "When the other fellow falls down on the job, don't take advantage of it to undermine him, but help him up." This not only makes for friendship with the other fellow but it makes for the good of the calling as a whole. In addition to this philosophy as applied to dealers in face brick and building material, he very earnestly counseled the brick dealers to do business with the contractor and not direct with the owner who is having building done. This is but another case of helping the other fellow, for the contractor is naturally one of the other fellows in the building game, and logically there should be friendly relation and co-operation between those having building material to sell and those contractors who take this material and convert it into building.

This doing business with the contractor in preference to the owner is an interesting point that is receiving very earnest attention today both by brick dealers and brick manufacturers. The idea is not to arbitrarily shut out the owner and prevent him having a voice in the selection of material that will be used. The idea is that the owner shall have all the freedom of choice he may desire, and shall be given every opportunity to see and learn about the different offerings. When it comes to the actual business transaction, however, when the owner has shown his preference, the deal should be made with the contractor and not with the owner. There is some argument to be brought forward on both sides of this question, but in the final analysis it is found more satisfactory all around to do business through the contractor, and this is a policy that is shaping itself up firmly both among brick dealers and brick manufacturers.

Get acquainted with the other fellow—your neighbor and competitor, for you may like him. There are many instances which prove that the chances are decidedly in favor of you and the other fellow liking each other better when you know one another better. It is one of the ways to turn antagonism that leads to unnatural price cutting into friendly rivalry which stimulates progress without destroying profits. So get



acquainted with the other fellow, and in doing so get the idea firmly fixed in your mind that the way to get help from the other fellow is to help him when he needs it. If he falls down on something, don't take advantage of this to his discredit and undoing. Take advantage of the occasion to lend a helping hand for in helping the other fellow you will in the final analysis be helping yourself.

## RECENT PATENTS

### IN THE CLAYWORKING INDUSTRY.

[Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering, give patent number only.]

**No. 1,383,131. Brick-Making Apparatus.** Edmond Lechat, Nantes, France, patentee.

A feeding apparatus for brick presses, comprising in combination upper troughs containing the material used to form the main body or core of the brick, lower troughs containing concrete used to form a facing upon one or more sides of the brick, endless aprons constituting the movable bottom of the distributing troughs, each trough being provided with adjustable shutters; spouts vertically moved extending through an opening into the mold of the press, a series of feeding chutes leading the first of said materials into the spouts and another series of chutes leading the second of said materials around the spouts.

**No. 1,389,408. Tunnel-Kiln Air Heater.** Louis Wilputte, New Rochelle, N. Y., patentee. Patent assigned to American Dressler Tunnel Kilns, Inc., New York, N. Y.

An air heating means comprising, in combination, a structure built of refractory material and formed with a plurality of parallel combustion chambers and channels extending transversely to said chambers, a group of spaced-apart pipes connected to and forming extensions of the combustion chambers, a housing enclosing said structure and pipes closely surrounding the group of pipes but shaped to form a passage at one side of the structure which is in communication with the inner-pipe space, and a second passage at the opposite side of the structure.

**No. 1,382,652. Hollow Brick.** Jean E. Kiefer, Lausanne, Switzerland, patentee.

A patent granted for hollow half bricks or building blocks having sides of equal length and so shaped that when the equal sides are placed together they form a brick or block having at least one face or side shaped like an S with equal limbs.

**No. 1,390,038. Material for and Process of Forming Brick, Tile and the Like.** Llewellyn Jones, Muncie, Ind., and Charles Westlake, Jr., Youngstown, Ohio, patentees.

A material for dry pressing in the formation of brick, tile and the like, containing silica from 65 to 75 per cent, lime from 20 to 30 per cent, magnesia from 1 1-2 to 3 1-2 per cent, and sulphur from 1 1-2 to 3 1-2 per cent.

**No. 1,390,335. Parallel Current Kiln.** Harry E. Brookby, Evanston, Ills., patentee.

A common direction parallel current kiln having a rotary shell, a combustion chamber projecting into the shell, and means for introducing the charge into the shell and passing it over a portion of the surface of the combustion chamber for raising the temperature of the charge and lowering the

temperature of the gases of combustion before the two mingle in the shell.

**No. 1,390,884. Vertical Kiln.** Etienne Chaudierre, Paris, France, patentee.

The combination with a vertical kiln or furnace, in which the material to be treated is mixed with the fuel, of a central core extending the whole length of the kiln and completely surrounded by the material and the fuel, and a duct in this core disposed to take fresh air from the exterior and to distribute it at different levels in the inner part of the ring formed around the core by the material to be treated mixed with the fuel.

### TRADE MARKS AND DESIGNS PATENTED.

**No. 147,392.** Acme Brick Co., Fort Worth, Texas. Trade-mark registered for name "Acme" for bricks and drainage tiles.

**No. 145,676.** George S. Good Fire Brick Co., Patton, Pa. Trade-mark registered for fire brick.

**No. 146,043.** Los Angeles Pressed Brick Co., Los Angeles, Cal. Trade-mark registered for name "Varicolor" for pressed clay bricks also tile for construction purposes.

**No. 145,882.** Crush Brick Co., Sulphur Springs, Texas. Trade-mark registered for name "Thermo" for fire brick, hollow building tile, face brick and fibre brick tile.

**No. 150,904.** LaClede-Christy Clay Products Co., St. Louis, Mo. Trade-mark registered for name "LaClede King" for fire brick and fire tile.

**No. 146,758.** The Evans Builders Co., Urichsville, Ohio. Trade-mark registered for name and design "Tebco" for hollow building tile, terra cotta pipe, common building brick, fire brick, drain tile, fire clay and glazed building blocks.

Written for The Clay-Worker.

### BRICK AND CLAY NEWS FROM MILWAUKEE AND WISCONSIN

PRODUCERS of clay products in Wisconsin are entering into what was formerly designated as the slow season, with the demand falling off due to the approach of the cold weather season. Like most every other industry, the clay producers are no longer content with accepting "dull seasons," but get out and hustle for business without interruption. It has proven to be the case of being able to get business by going out after it. Some plants are, of course, unable to operate as extensively in the winter months as they are in summer but with modern equipment weather conditions do not enter into production so extensively as in the period a few years back. At any rate, the products are now being sold the year around as contractors continue to build except in extremely cold weather.

Bearing out this contention clay products men point to the continuance of construction and building operations in Milwaukee and elsewhere during the fall season this year. In Milwaukee operations show a decided increase over the same period last year, according to comparative figures supplied by the building inspector. For the past month, permits to the number of 2,908 were issued for work valued at \$1,903,866, as compared with 1,980 permits for \$1,834,845 for the corresponding period in 1920. Building permits this year total 23,874 for construction valued at \$17,739,973, compared to only 17,835 permits for \$15,691,626 last year. This record



was made in face of lower costs of building this year over last and the fact that home and small buildings feature this year while last season was a heavy industrial building year.

Prediction is made that the total number of building permits issued in Milwaukee during 1921 will reach 30,000, as the number issued for the nine months ending September 30 was 23,847, already exceeding the greatest full year's record of the past, 22,399. Among the large jobs for which permits will be issued in October or soon after, are the new dental college of Marquette University, \$350,000; the Children's Free Hospital, \$250,000; second unit of the Milwaukee Continuation School, \$500,000; Excelsior Masonic Temple, \$100,000; and the buildings of the City Sewerage Commission on Jones Island which will come close to \$1,000,000. Building operations will be close to \$25,000,000 for 1921, it is predicted, making the greatest in the history of Milwaukee. This will exceed the 1919 record of \$23,360,000, the highest previous total, when the larger part of building operations was in the nature of factory extensions, of which there have been few this year.

One of the modern Wisconsin brick production plants is that of the Wisconsin Brick Co., located west of the city limits of Madison. The company started operations 15 years ago and the plant has a capacity of 35,000 bricks a day. Although generally known as common brick, the product of the Wisconsin Brick Co. has been used in a large number of public and private buildings as face brick, among them being the Woman's building, some of the ward schools, churches and other structures in Madison. They are used as a finish on the inside of gymnasiums, corridors, light shafts and other places where a light effect is desired, particularly in schools and factories. In the corridors of the new Vocational School a red face brick is used for the lower part of the wall as a wainscot and the Madison product used for the upper part to lighten up the corridors. The product of the local brick company has been used in buildings of the University of Wisconsin and the State, this city being the state capital of Wisconsin and the home of the state university. The distribution territory includes southern Wisconsin but many shipments have been made to greater distances, including the state of Iowa.

Prices of brick here are about unchanged, quotations for common brick being about \$14.50 per thousand. Face and fire brick are commanding a figure about unchanged from the recent period, quotations depending on grade and quality.

A. BADGER.

#### A. S. T. M. TRIENNIAL.

The big volume publication of the American Society of Testing Materials which is issued triennially has been received, and this time it contains about 900 pages chuck full of valuable technical data pertaining to tests and standards as carried on and set up by this well known organization. There is given in this volume a review of the organization and purposes of the society, which was started in 1898 and incorporated in 1902. The purpose is to promote knowledge of the materials of engineering, and standardization of specifications and methods of testing. The society has its headquarters with Engineering Club of Philadelphia, 1315 Spruce Street. Meetings are held annually, usually the last week in June, and the work is carried on largely through standing committees, of which there are now 40, with a total membership of 1,300. There are many pamphlet publications issued prior to the annual meetings, but the present publication is the big triennial volume carrying the results of all the work done.

## OFFICIAL ANNOUNCEMENT



### THIRTY-SIXTH ANNUAL CONVENTION TO BE HELD IN INDIANAPOLIS JANUARY 23 TO 28, 1922.

THE NATION'S CENTER, in and about which the great industrial interests teem with activity, is surely the ideal location for a great national convention. For this and other reasons the Executive Committee has decided to hold the Thirty-sixth Annual Convention of the National Brick Manufacturers' Association in Indianapolis the week of January 23, 1922. The Hoosier capital is "No mean city," as Presi-



The Greatest Soldiers' Monument in the World, in the Center of the City, the Center of the State and the Center of the Nation, From the Pinnacle of Which Miss Indiana Bids You Come and Assures You a Real Hoosier Welcome.

dent Harrison said in one of his many memorable addresses, and his fellow townsmen have proudly used the appellation as a slogan ever since.

At the annual meeting, held in Indianapolis in 1918, many of the members complimented the local committee on the exceptional facilities afforded the delegates. At subsequent conventions frequent reference has been made to the success of the meeting in Indianapolis, on account of which the wish has been often expressed that we might meet there again.



### The Most Get-at-able City.

The Hoosier capital has many advantages as a convention city. It is the greatest inland railroad center in the world. It is the most get-at-able city in the nation, being but a few miles from the actual center of population. From it radiate many of the great trunk lines, affording fast through train in service to all of the leading cities, East, West, North and South. By the same token, those who wish to extend their trips to winter resorts may secure through sleeper service. Those desiring to attend the annual convention of the Common Brick Manufacturers' Association at St. Louis the following week can make one trip cover both meetings, and special Pullman service will be arranged for the trip from Indianapolis to St. Louis. Should any of the delegates so desire, they can make side trips on the way to St. Louis, stopping at Crawfordsville, Brazil and Terre Haute, Ind., and Danville, Ill., where there are great brick and tile plants which operate the year around.

From every viewpoint Indianapolis is a very happy choice, and it is anticipated there will be a very large attendance. A real Hoosier welcome awaits every visitor.

As at the previous convention, headquarters will be at the Claypool Hotel, which is noted for its unexcelled facilities for convention functions. Its beautiful lobby, its great banquet hall, known as the Riley room, and its convention halls give it



The Claypool Hotel Headquarters.

high rank for all business and social gatherings of whatever character. The clay crafts are now confronted with many serious problems, the solution of which requires the best thought and effort of all engaged in the industry. The chief aim and purpose of the N. B. M. A. is to encourage and promote improved methods of operation, thereby improving the character of the ware, the amount of the plant output and economy in operation. It is the one national organization through which this work may be accomplished properly, and every brick and tile manufacturer in the land will profit by attending the meetings and taking an active part in same. All sessions are open to the public.

Reduced railroad rates may be secured. If so, further notice and full particulars will be given in subsequent announcements. Those desiring further information relative to the program, which is now in course of preparation, the requisites of membership, or any other particulars, are requested to address the Secretary at Indianapolis.

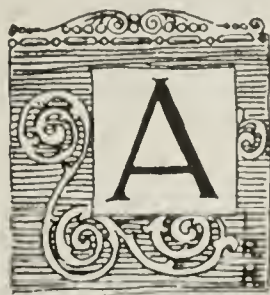
#### THE EXECUTIVE COMMITTEE.

W. E. Dunwody, President.

Theodore A. Randall, Secretary.

Written for The Clay-Worker.

### NEW YORK AND VICINITY.



GREAT PART of the building activity as displayed throughout the Greater City and her adjoining sister boroughs is mainly of the speculative line in apartments and dwellings. In fact this line of construction is holding at a decidedly high level with the major distribution of burnt clay products used for this purpose.

According to reports for September, the aggregate contract awards for this State and including the surrounding districts, has been the largest for any single month on record. The maximum figure heretofore considered was attained during the month of August in 1919, but the past month has eclipsed this banner month by a gain of six percent. Where the former figure was \$80,000,000, it is today reported at close to \$86,000,000. All of these gains have an influence toward better times.

Yards in the North River section are approaching the time for closing. The heavy stocks of summer have been about exhausted to the point where there are less reserves for the oncoming winter period than has been seen for many seasons past. The plants that continue on an all-year basis are keeping their outputs up to a fair point, with manufacture anticipated indefinitely. It is expected the spring season of 1922 will find all reserves at a very low level, as the outlook for construction in the larger building centers of the State are expected to proceed with what they have in hand, or can get in contract awards.

There has been no change in the labor situation in the Greater City. Nothing definite is looked for between employers and employees until the first of the year, at which time present contracts expire. With few exceptions, there has been no change in the whole State. The disagreement in Rochester has been taken care of and the union men have agreed to twenty cents per hour reduction. The controversies in Newburgh and Albany have been adjusted, with the smaller centers reporting proportionate declines accepted. At present the indications are for a peaceful time until the existing agreements run out, but, we have not reached that point as yet.

The feature of the local market is plainly seen to be common brick. There has been a price advance of \$1.00 recorded. The old price of \$15.00 wholesale is still available in some quarters, though \$16.00 is the new price which is maintained under a firm tone. These are all wholesale prices and the necessary commissions, hauling charges and other incidentals are to be added, which would bring the f. o. b. price up to \$18.50 or thereabouts. What brick arrive from up-river yards are being rapidly absorbed as each week presents itself. This puts the reserve market in a peculiar position, as the wholesale end is not gathering the reserve for the winter building activities. Six weeks or two months ago there were from twenty to twenty-five cargoes a week arriving at the Manhattan docks, while today there are at least twice as many coming in. The wholesalers are supplying Manhattan and surrounding boroughs, with Brooklyn the largest consuming section. This borough will average at least one-half of the cargoes arriving.

Face brick calls in this center and vicinity all show a strengthening. This may be due to the large demand shown by the apartment and residence construction. Most of the fronts are being constructed of this material, which would give the dealers a feeling of good business for some months ahead, if not further than the winter months. From the

(Continued on page 388.)



## THE CERAMIST'S CORNER

*This is a department which appears in The Clay-Worker from time to time dealing with practical and technical matters of especial interest to the ceramist. This month we publish the current items on various matters pertaining particularly to the interests of manufacturers of the higher grade ceramic ware.*

### CERAMIC DEPARTMENT OF IOWA STATE COLLEGE.

THE YEAR of 1921-22 starts off at Iowa State College with 13 men in course in the Department of Ceramics.

These men are candidates for the degree of Bachelor of Science, the only degree granted in any course at Iowa State College. After five years of practice of the profession and on presentation of an acceptable thesis the right to the use of the title of engineer in that profession is granted. It will be seen therefore that Iowa State College considers that it takes five years of experience in addition to the work in course to make an engineer in any of the branches of engineering taught. This point is the keynote to the Iowa State College idea. That is, Iowa State College carries on its seal the words, "Science with Practice," and bears this in mind in granting the degree of engineer. To be consistent therefore with the Iowa State College idea the Department of Ceramics makes the course as practical as it can. This does not mean that the course is all laboratory work but on the contrary the course is a stiff one in the fundamental sciences, with the minimum of those things that can best be learned in that five years of actual experience that are to follow the granting of the B. S. degree. Some electives in business administration are permitted but with the idea of offering theory mainly.

There have been changes in the faculty of the Department of Ceramics that materially strengthen the department. Dr. S. L. Galpin, the head of the department for two years, has been relieved from his work so that he may devote all of his time to his special field of geology. Dr. Galpin is a product of Professor Heinrich Ries and shares in that love for things ceramic that Professor Ries has. With Dr. Galpin in the geology department the Department of Ceramics really has three men in the faculty, and gives Iowa State College the right to claim special strength in the geology work of the ceramic course. Professor Paul E. Cox succeeds Dr. Galpin as head of the department and his years of practical experience in the field of stoneware and art pottery manufacture, coupled with less experience in common brick, and supplemented by a very complete experience in grinding wheel business, gives the department first hand knowledge in several branches of ceramics.

A very considerable part of the work in the Ceramic Department is the work for the Experiment Station and to supply a man for this work it was decided to secure a man with a wide practical experience in those industries that are the more common in Iowa. Mr. D. A. Moulton, O. S. U., 1908, was selected and comes to the department directly from the A. P. Green Fire Brick Company of Mexico, Missouri, where he has had charge of the research work. Preceding this position, Mr. Moulton held a similar position with the McLain Fire Brick Company of Pittsburgh, and before this he was with the Peebles Paving Brick Company, of Portsmouth, Ohio, having been assigned a small plant they owned in Kentucky, known as the Dixie plant. Here he had a badly mixed shale pit to deal with and the plant was put into his hands in such a way that he was really given it as a research unit. Such experience fits Mr. Moulton particularly to deal with the Iowa problems. He also had the task of building a complete plant in Toronto, Canada, which was designed for the manufacture of building brick. In addition, Mr. Moulton started in by

firing kilns in a southern brick yard and this means that he knows something of what hard work is, and why it is good for a young engineer to do it.

Mr. Moulton comes into the Department of Ceramics as half time teacher with the rank of assistant professor and devotes half time as Research Engineer of the Engineering Experiment Station. A meeting has been had with the committee of the Iowa Clay Product Manufacturers' Association and a problem of interest to them chosen and work begun on it.

The Extension Department of Iowa State College has taken over the work of supplying popular lectures and demonstrations on the potter's wheel by Professor Cox throughout the state, these lectures being given under the auspices of women's clubs. Promoting interest in ceramics in the homes ought not be other than advantageous to the profession at large and while these lectures deal with pottery of interest to women the opportunity is taken advantage of to present the cause of engineering to the mothers of sons.

### THE APPLICATION OF PRODUCER GAS TO PERIODIC MUFFLE KILNS.

By F. B. Ortman.

#### Abstract.

Specific Installation.—Describes installation of Underwood System to six terra cotta kilns at plant Northwestern Terra Cotta Company.

Conclusions from operating data.—(1) Raw producer gas can be successfully applied to periodic muffle kilns. (2) There is little or no direct fuel economy over direct firing. (3) There is no labor economy unless the installation be large enough to justify mechanical coal and ash handling devices. (4) When interest on investment, depreciation and all other pertinent factors are taken into account, it is not likely that any great economy would be affected on periodic kilns over direct fire methods.

Advantages.—They are: (a) Somewhat better control of combustion gases and kiln temperatures. (b) Decided saving in kiln repair cost. (c) Cleaner and more orderly kiln yard. (d) Abatement of smoke nuisance, particularly important in large cities.

#### Introduction.

The use of raw producer gas as a fuel for the burning of periodic muffle kilns is, we believe, a rather uncommon practice. In fact, the only installation of this kind of which the writer has any knowledge, is that put in at the plant of the Northwestern Terra Cotta Company, Chicago, early in 1918. This installation was operated continuously for a period of six or eight months, but has not been operated since that time. It was not discontinued because of its having proven a failure but because of other considerations quite aside from its performance and of no particular interest in this connection.

In the hope that the experience with this installation may be of interest to others the following data, taken from various reports and notes made at the time, are presented here.

It should be emphasized at the outset, that the experience



with this installation was confined entirely to muffle kilns burning architectural terra cotta, which presents an entirely different problem for an open kiln burning brick, etc.

#### Installation.

The installation consisted of two rectangular up-draft brick producers, 9x15 feet inside and fired from the top through three of the usual bell-feed hoppers. They were equipped with a water-sealed ash pit, the air and the steam being admitted by means of a steam injector to a tuyere running longitudinally along either side of the producer under the fuel bed.

The gas from each producer emptied into a main underground duct from which it was taken off by underground distributing flues to each of two 18-ft. diameter kilns and three 19-ft. diameter kilns. Each kiln had nine fire boxes equipped with gas burners supplied by The Manufacturers Equipment Company. The kilns were of the usual round, up and down draft, muffle type and were all practically identical in design. The 18-ft. kilns would have a capacity of about thirty-two burned tons and the 19-ft kilns about forty burned tons.

The air for combustion was supplied at a pressure of about 8 oz. by a small blower fan, and was conducted around the kilns overhead in a 12-in. galvanized duct. It was not preheated, being applied at the burners at outside atmospheric temperatures.

#### Operation.

The successful adaptation of producer gas to kilns of the type in question involved the solution of two problems, viz., The Producer Problem and the Kiln Problem.

**Producer Problem.**—The conditions necessary to maintain, in order to produce a good quality of gas, are perhaps much the same as in any other type of producer installation. The requirements, however, are somewhat different from those of a continuous kiln or other similar installations, in at least two respects.

**First:** The gas must constantly be maintained at high quality and burned with as low an excess air as possible, in order that the volume of combustion gases may be kept at a minimum. Otherwise, the comparatively complicated flue spaces which exist in kilns of this type will become overloaded, and choked, resulting in excessive heat in the combustion chamber and an uneven burn. In the burning of brick or other material in open kilns, it is reported to be of distinct benefit, especially during the water smoking period, to burn the gas with large volumes of air, since the excess air thus introduced performs the very necessary function of assisting in the rapid removal of the water. In the muffle kiln, however, this excess air performs no such function, the air for water smoking being supplied from other sources quite independent of the combustion gases.

**Second:** The gas must be fed to the burners primarily by pressure, rather than by suction, as in the case of continuous kilns, for example. This introduces another factor influencing the possible adjustment of the steam and air at the producer, quite apart from the adjustment which might be necessary for producing the best quality of gas. This is particularly in evidence when a kiln is first lighted and before a good stack draft is established.

In order to meet these requirements, therefore, it is necessary that the producer plant be kept at the highest possible state of efficiency. Our experience with the above installation indicated that the following were the essential factors for obtaining this result.

**First:** Ample capacity, in more than one unit. This is obviously necessary in order that the supply and quality of gas may be maintained under varying loads, and during breaking down and cleaning of fuel beds.

**Second:** The selection and use of the best possible coal commercially available. Such a coal should be as nearly uniform in size as practical, and not too large. It should also carry a low sulphur and ash content. Probably a washed nut would be the ideal coal, although in some markets, natural coals might be available which would be more economical.

**Third:** The careful regulation and standardization of operating conditions, such as steam and air supply, amount of coal and frequency of firings, frequency of pokings of fuel bed, breaking down, cleaning, etc. These conditions vary greatly with different coals and can only be adjusted by actual experience on part of the operators. It is important, therefore, that after a suitable coal has been found, every effort be made to insure a steady supply of same, as every change of coal results in at least a temporary drop in the efficiency of the producer.

**Kiln Problem.**—Being assured of a steady and ample supply of a good quality of producer gas at the burners, it then becomes necessary to burn the same economically and with satisfactory results in the kiln. The first difficulty one would expect to encounter in this respect, viz., the use of cold air for combustion, was satisfactorily solved by the Underwood Burner. This burner, while simple in design, proved efficient, and permitted control of the excess air and flame length somewhat more accurately than is possible by the direct fire method, always assuming, however, that the producer was delivering a good and uniform quality of gas.

Another point observed is the effect on kiln linings, flues, etc. While the operation was not continued a sufficient length of time to supply definite data on this point, it was clearly apparent that the uniformity of fire-box temperatures maintained with the gas firing, greatly reduced the necessary kiln repairs.

#### Comparative Economy.

The economy of this type of installation as compared with direct fired kilns, is of course a very vital point. Careful measurements of fuel consumed, over a sufficiently long period of continuous operation to be reliable, showed us that the actual coal fed into the hoppers of the producer per kiln or per ton of terra cotta burned, was slightly less than the same kilns had been requiring under direct firing. If, however, the producers were charged (as they should be) with the coal required to furnish steam and power necessary for operation, then the relative economy was slightly in favor of direct firing.

On the installation in question there was no saving in labor cost. Possibly a larger installation which would justify mechanical coal and ash handling devices would show some saving in this respect.

#### Quality of Ware Produced.

There was no appreciable difference observed in the quality of ware produced, it being equal in every respect to that produced under direct firing.

—Journal of American Ceramic Society.

#### MEMORIAL FOR BRAZIL.

Brazil as a nation will have its hundredth anniversary September 8th, 1922, at which time it is expected to hold a great centennial at Rio de Janeiro, the capital city of Brazil. Meantime the American Chamber of Commerce for Brazil, located in that city, is busy raising a fund and working out a detailed plan for a memorial to that country from people of the United States. The plan is to raise a fund of half a million dollars through the co-operation of industrial and commercial bodies in the United States.

It is always the other fellow who does the wrong thing.





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#### Post Signs to Help Sale of Tile.

Dear Mr. Randall:—

I received the "Drain Your Farm" signs and am very well pleased with my purchase. They certainly are good looking, and I am sure they will help sell my tiles if I post them properly. I want to thank you for handling my order so promptly and so well.

Very truly yours,

F. E. LANDGRAFF,

Proprietor, The Albion Tile Factory.

Albion, Ind.

#### Turns Failure to Success.

Dear Friend Randall:

I am here with the Corunna Brick Company, and have charge of their plant here at Corunna, Mich., and at Warren, Mich., too. The one at Corunna is a new plant and the man who was here before I came did not know the brick game very well, with the result that the company had a lot of bad brick on their hands. The brick that did not crack in the dryer, cracked in the kiln, because the clay was not handled right. I soak the clay bank and then mix about one-fourth sand with the clay, run the watersmoke off slowly, before putting the kiln on full fire, and have not had any checked brick so far. We have a Wellington self-dumping machine with steam pipe rack dryers, and the capacity of the plant is from 50,000 to 60,000 per day. So many people do not realize the importance of proper handling of the clay.

With best wishes, I am,

Yours very truly,

L. M. JOHNSON.

#### Off For Florida For the Winter.

My Dear Randall:—

Note the next convention of the N. B. M. A. is to be held in Indianapolis. That suits me all right, but I would rather have it at St. Petersburg, Fla., or Tampa. We leave for St. Petersburg on the 27th of this month, going to Baltimore, and thence by boat to Jacksonville; will be four nights and three days on the water. Since my second stroke of apoplexy in August, 1920, I have not returned to normal as quickly as I might have wished, but I think I will eventually be as good as new. The mistake I made was in staying with the game too long, and then playing the game a little overtime.

The next time you are in Cleveland in the summer, come and see me in my all-brick home on Overlook Park Drive, put your feet under my table and eat the same "grits" I do. You will be more than welcome. You can go bathing 600 feet from the house in old Lake Erie, where we have a beautiful beach for all of our friends.

Do not anticipate coming back north for the convention, but want you to be sure to send me The Clay-Worker.

Very truly yours,

CHARLES J. DECKMAN.

#### Suit to Enforce Contract.

Editor The Clay-Worker:—

You may be interested to learn that on August 22, 1921, the Honorable M. C. Tarver, Judge Superior Court, Cherokee Circuit, granted an order restraining J. H. Legg, L. N. Legg, H. L. B. Legg, E. D. Legg and the Plainville Brick Company from manufacturing or selling brick or clay products of any kind within a radius of 300 miles from Calhoun, Georgia, until a hearing.

At a hearing in Dalton, Georgia, September 10, 1921, the Court continued in force the original order and further restrained said defendants from continuing the construction of their plant at Plainville, Georgia, until a final hearing.

This suit was instituted by B. M. Hood to enforce a certain contract in which J. H. Legg and L. N. Legg agreed not to manufacture or sell brick within a radius of 300 miles from Calhoun, Georgia, for a definite period of time.

Very truly,

G. W. KEELING,

Vice-Prest. & Treas., Legg Brick Co.

Atlanta, Ga.

#### New Quarters for Lakewood Engineering Co.

The Lakewood Engineering Company, of Cleveland, has moved its Philadelphia office from the Widener Building to the Franklin Trust Building.

#### Changing Location of Main Office.

Warren W. Ittner, general manager of the General Clay Products Company, St. Louis, advises they are establishing the main office of the company, which was formerly maintained in St. Louis, at the plant at Belleville, Ill. The plant is running to capacity.

#### Does He?

A building material publication sends us this question: "Why does a bricklayer who used to get \$1.00 an hour for laying 2,000 brick a day now demand \$1.25 an hour for laying 500? Well does he? There have been some arbitrary demands by bricklayers, but as a general proposition we do not believe it is so bad as this.

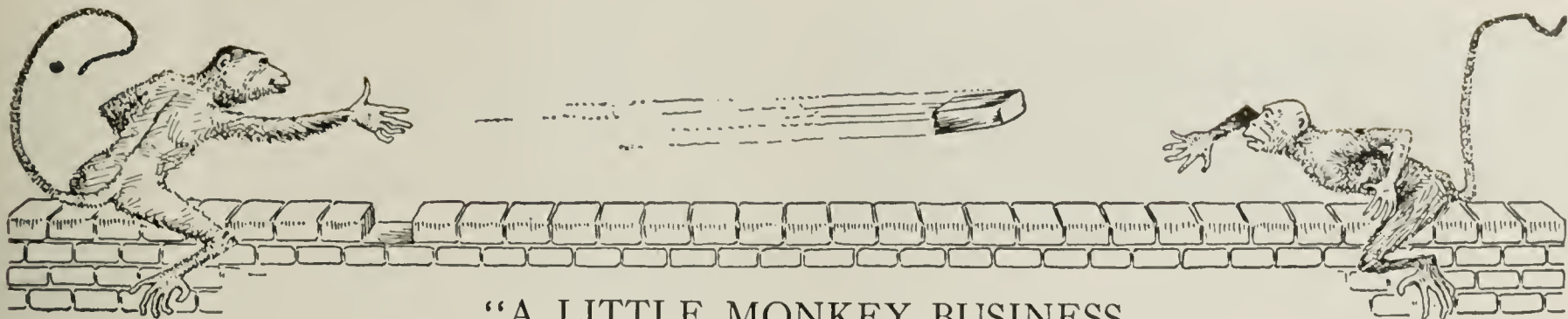
#### The Need of the Day.

Everyone interested in the promoting of a full and immediate return of active building operations realizes that dealers as well as manufacturers, and the laborers engaged in the work, must cut down to rock bottom in their costs and prices and seek to stabilize values and create public confidence in the idea that buying material and building now will constitute a good investment.

#### Business Back to Normal in Birmingham.

John W. Sibley, general sales manager for the Birmingham Clay Products Company, Birmingham, Ala., writes that business got back to normal for them last month, and this month their orders are running about 30 per cent in excess of the previous month. They had an enormous stock on hand which had accumulated during the past year and so are able to take care of all orders promptly and in good shape, and at a price that is satisfactory both to the company and the purchaser. Mr. Sibley, who is the popular treasurer of the National Brick Manufacturers' Association, also expresses his pleasure at the selection of Indianapolis as the next meeting place for the N. B. M. A.





## “A LITTLE MONKEY BUSINESS NOW AND THEN IS RELISHED BY THE BEST OF MEN.”

### RIBALD.

Summer Boarder: I see a pair of overalls working in the field. Is it a man or a woman?

Farmer: If it's working, he's a woman.—Judge.

### A FIRM STAND NEEDED.

Young Wife: My husband likes your cooking, Delia, but he wants to know if you can make your toast a trifle thinner.

Delia: Tell him no, ma'am, from both of us; why, if we'd be givin' in to him now, in six months there'd be no livin' with him.—Judge.

### FOR THE MODERN CHILD.

Mother had promised little Clara a doll, and Clara was allowed to accompany her to purchase one. They entered the store where a large assortment awaited them.

“This doll,” said the saleswoman, “can say ‘mamma’ and ‘papa,’ this one here can shut its eyes, and this one can say ‘Oh!’ when you put a new dress on it.”

“Have you one that cries when you don't put a new dress on it?” asked little Clara.—Exchange.

### THE HAND OF FATE.

Chloe: I sho' mighter knowed I gwine to have bad luck if I do dat washin' on Friday.

Daphne: What bad luck done come to yuh?

Chloe: I sen' home dat pink silk petticoat wid de filly aidge what I was gwine keep out to wear to chu'ch on Sunday.—Columbia (S. C.) State.

### PROFITS OF PRODUCTION.

Two farmers met after church as usual, and had this conversation:

“Sold your pig?”

“Yes.”

“What'd ye get?”

“Thirteen dollars.”

“What'd it cost ye to raise it?”

“Paid \$3 for the shoat, \$5 for the lumber in the pen and house, and \$5 more for the feed.”

“Didn't make much, did ye?”

“No, but I had the use of the pig all summer.”—Honolulu Star-Bulletin.

### RIGHT-O!

The Feminist Orator was wound up as she addressed the gathering of Mere Men.

“Women,” she shouted, “have in all times and in all countries been the mainspring of national existence. Who was the world's greatest hero? Helen of Troy! Who was

the world's greatest ruler? Queen Victoria! Who was the world's greatest martyr? Gentlemen, who, I say, was the world's greatest martyr?”

And with one voice that immense crowd of men arose and cried:

“My wife!”—Richmond Times-Dispatch.

### EXAGGERATION.

Mrs. Crabshaw: That old lady across the street said you used a lot of cuss words to her.

Willie: I didn't use a lot, Mamma. I don't know but two or three.—Life.

### FRUITS OF THE “LAND-LURE.”

First City Jay: What a strange looking bee! It's going to light right on that stalk of corn.

Second City Jay: Why, that must be one of those beastly husking-bees we've heard so much about.

### A TRYING SITUATION.

“I wish my name wasn't Adaline Moore,” complained that little girl to her mother one day.

“Why, dear? I think it is a pretty name.”

“I used to, but now the children in school have nicknamed me ‘Postscript.’”

### THEIR RELATION.

Teacher (drawing two parallel lines on the blackboard): What relation are these lines to each other?

Head of the Class: Twins.

### HIS NERVE.

Thompson came back to the office looking very brown. He had taken two weeks' vacation directly after Easter and so had been able to add several days to his rest period. To the amazement of his boss, however, he asked for a few extra days off.

“Why, you've only just had your vacation!” ejaculated the amazed employer. “What do you want the extra days for?”

“I want to get married.”

“Why didn't you get married during your vacation?” the boss inquired.

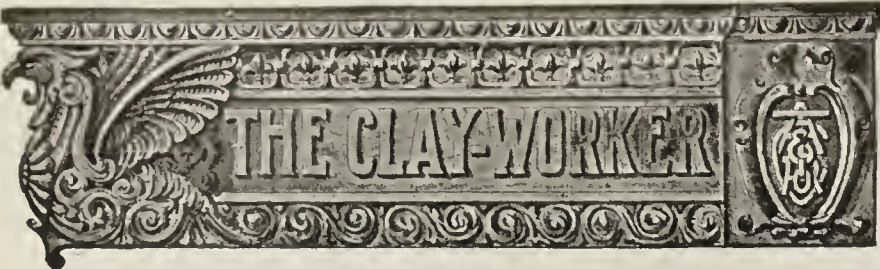
“I didn't want to spoil my vacation in that way,” replied Thomson.—Boston Globe.

### TWO WAYS OF STARVING TO DEATH.

“We can save money by not advertising.”

“Yes,” replied the advertising man, “and you can also save money by not eating.”—Detroit Free Press.





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CURRENT COMMENT.

As the fall advances building increases.  
\* \* \*

And home building, like Abou Ben Adhem's name, has led all the rest.  
\* \* \*

High rents hurt the renters, but they help the home building movement.  
\* \* \*

One of the good signs of the times is in the increasing percentage of brick now being used in home building.  
\* \* \*

Collections from the agricultural districts ought to be getting out of slow gear now and helping to ease the financial tension.  
\* \* \*

Common brick promises to make an uncommon record this year. It is a healthy condition when the home builders Build with Brick.  
\* \* \*

While we are howling for lower wages on the part of workers let us see if we can't trim down costs and prices on manufactured products.  
\* \* \*

Where good roads are being built without tile drainage it sounds like somebody has been neglecting the tile game or this drainage would be specified in the road contracts.  
\* \* \*

Conditions are such this year that there is more than the usual number of reasons why men should get together and confer with each other at association gatherings so that we may have a better understanding of the trade. Plan to be in Indianapolis N. B. M. A. week, January 23 to 28.

Quite often we find that the grouch is likewise the shirker.  
\* \* \*

It is only by persistent working at the job of doing our duty that we accomplish it.  
\* \* \*

If we are all to have good times we have all got to work—to do our bit some way, and now is a good time to set about it.  
\* \* \*

Only those who keep up with what is doing can realize the full importance of research work to the clayworking industry.  
\* \* \*

Soldier courses and diversity in brick laying and bonding is putting a pleasing variety into the architecture of home building this year.  
\* \* \*

We should all keep in mind that there is quite a difference between objections to labor union domination and to labor unions themselves.  
\* \* \*

These may be melancholy days for those out of work, but it is refreshing to learn that the army of unemployed is not as big as it was figured, and is growing less.  
\* \* \*

Close watching of credits is the order of the day in the business world. And it is refreshing to note that credits in the building industry show up better than in most other lines.  
\* \* \*

It is time to put on your thinking cap and be setting forth the things you want done and talked about at the annual convention to be held in Indianapolis the week of January 23rd, 1922.  
\* \* \*

One trouble with a lot of people is that they want to start business off on high, and when they find their efforts to do this futile they fuss. The better idea is to start up in slow gear and have a steady pickup.  
\* \* \*

One impressive thought that experiments in column fire tests have brought out is that it is the area of solid matter in hollow tile rather than the dimensions of units which determines the length of resistance to fire.  
\* \* \*

A Congressional Commission has figured out that 49 cents of each dollar we pay to our merchants for merchandise represents the cost of service. Well, since we insist upon the service, we may expect to have to pay for it.  
\* \* \*

One authority figures that the wage loss during 1920 on account of strikes was over a hundred million dollars. As a matter of fact we all lose when there is a strike and strikes, like fires, are wasteful things we should seek to eliminate.

THE WINTER OUTLOOK.

From present indications there will be more than the usual amount of winter time operating on the part of clayworking plants throughout the country. Of course local conditions play an important part. Some sections may not find this true, but in the main the situation points toward a busy winter. Building operations have been gaining in headway all summer and will continue through the winter to whatever extent the weather permits. This means that many brick plants will have to do winter work to supply the demand and accumulate a stock ahead of the spring needs. Also, there are signs indicating a recovery from depression among the farmers which ought to make for a busy winter in drain tile work and to encourage active operations in this branch of the clay working industry. The refractory lines are still held in check some



by slow work in the metal industries, but all lines of clay-working which supply structural material have a prospect for an unusually busy winter run. This is encouraging, too, at the present time, not only as indicative of busy times, but it will help make it practical for the clayworking industry to do its part in furnishing jobs for the jobless.

#### RAILWAY MATTERS.

Two points on which interest centers in railway matters now are, first, whether or not the railroads will be able to handle traffic without congestion, and whether or not we are to have lower freight rates anytime soon. So far shippers have had but little trouble getting cars and making rail deliveries. This has helped out considerably, too, by keeping plants going and building operations moving forward steadily. And the pickup in building operations during the fall months together with other tonnage for transportations has kept the railroads fairly busy, so that they are prospering. If they can get the wage question settled and make some reductions in freight rates it will help out considerably, but at this writing there is nothing to give any definite clue as to what may happen in the way of railway wages or freight rate amendments.

#### THE FUEL SITUATION.

Coal prices have shown some stiffening on domestic lump but the demand for this is leaving a surplus of mine run and nut and slack, and the result is clayworking plants have been able to get coal lately at somewhat closer prices than last spring. What may happen when bad weather sets in can only be guessed at. Authorities differ in their opinions as to whether or not there will be a scramble for coal this winter. Much depends upon the weather and upon the extent to which industry revives and consumes coal. Broadly speaking, it may be said that coal prices are as low as could be expected unless there is a revision in wages, which is not likely to take place before next spring. The best advice that can be given now is to buy a little more liberally ahead of your needs so as to be safe in case of a transportation tie up.

#### FIXING PRICES.

Not only have the brick men of the New York territory and other parts of the country come in for an overhauling on the part of governmental committees and authorities lately, but now they are after the National Terra Cotta Society on the claim that they have been combining to boost prices, restraining trade and so on.

Incidentally there enters into this price problem a question that is puzzling the captains of industry generally. The lumber fraternity has recently been hauled into court to answer charges of price fixing. The question of open price reporting and the free discussion and efforts to maintain prices on a stable basis seems to be debatable.

Some day the business people of the country will have to go to the mat with the government authorities in this matter of prices and what may be done by industry through its organizations to stabilize prices on some fair basis.

Logically the only real concern of the government is the welfare of its people. As between industry and consumers the real concern is or should be whether or not industry is charging exorbitant prices. The English are several jumps ahead of us on this point. A government committee recently investigated the pottery industries over there and the only purpose of the investigation was to determine whether or not prices were being maintained on too high a level.

There seems to be no questioning of the right of the

industry to organize and strive to maintain a stable base of prices. The only question concerning the English government was whether or not these prices were fair. And about the only recommendation of the commission investigating was that the association members be made to file such reports as would make it easily practical to investigate the relation of cost to prices at any time, and determine the fairness of prices being maintained.

In this country, meantime, we whip the devil around the stump, the government insisting that trade associations shall not talk prices, and must not make any agreement as to prices whatever. Nor may they report current prices being obtained to members of the association because this it is claimed helps to maintain prices.

Whatever may come out of the present agitation, there is one thing the industry is beginning to realize which should be brought home to our legislative authorities. That thing is that stable prices on the basis of average costs are essential to the welfare of the industry and to the welfare of the people as a whole. And to the end that we may obtain this we should be permitted to talk prices and figure prices in trade association work and use all reasonable efforts to maintain them on a basis fair to the public, and which will insure the stability of industry by making a reasonable show for profit.

#### CEMENT'S EXAMPLE.

The cement folks made a reduction in prices of 30 cents a barrel right at a time when all signs pointed toward higher prices because more cement was sold than was being produced. The explanation made was that one of the big cement concerns had developed important savings or cost reduction factors in the making of cement and this was being passed on to its consumers. If that is true, if in the face of present conditions the cement people have found a way to produce at less cost, it should prove an inspiring example to the clayworking industry. Cement cost is largely a matter of fuel and machinery. It is pretty much the same in the clayworking industry, fuel and machinery are important factors in production cost. If there is a way to reduce cost by greater fuel economy or something of that kind the clayworking fraternity should be getting in on it so that we may produce brick and tile for less money and thus by lowering the prices extend the volume of trade.

#### REST AND RECREATION.

Most of us plan to take a little vacation during the summer season. Presumably it is for rest and recreation. Some of us make of it a pretty strenuous period, while others take it easy. In each case, however, it is refreshing in that it brings a change. Also the annual vacation season should stand as a reminder that we need to play some as well as work a lot.

John D. Rockefeller, Jr., gave us a reminder of this recently in an address at the opening of a new industrial Y. M. C. A. at Bayonne, N. J., which is the largest in the world.

In his address John D. Rockefeller, Jr., gave four reasons for his interest in this project: "First, because here the emphasis is placed on play. Our ancestors who first came to this far distant land were so busy at the outset in plowing the soil, in building homes, in protecting these homes from the enemy, and later, as the years went on and the generations passed by, in developing the great industries of this land, that neither they nor we have had much time to play. And yet, I think as a people, we are coming more



and more to believe that all work and no play makes Jack a dull boy."

There is a pretty good sermon in this one paragraph of John D.'s talk, and we should take it to heart and realize that we are entering upon an era in the world in which men should make provision for and plan play as well as systematic productive work.

#### TRADE NOTES.

The Columbus Sewer Pipe Company, Columbus, Ga., has plans under way to rebuild its plant recently destroyed by fire. Judson C. Buchanan is manager of the company.

The Fort Collins Pressed Brick & Tile Company, Fort Collins, Colo., which began operations a year ago, has had a very successful season, turning out common brick only. Later on front brick and building tile will be added to the output. The company has on its books orders for a number of large contracts, including the Cheyenne hospital and a number of school buildings in adjacent towns.

The rebuilt plant of the Harrisburg Shale Brick Company, Harrisburg, Pa., resumed operations early in September, after having been closed for more than a year and bricks now are being manufactured at the rate of 40,000 a day. Harvey S. Dewalt is president of the company and John Mills is plant manager. The plant is housed in a three-story steel building. Two new "dry-pans" have been installed and the four kilns all have been rebuilt. The trucks also have been rebuilt. The kilns each have a capacity of about 325,000 or an eight days' output.

The big stack of the Richards Brick Company at Edwardsville, one of the tallest in Southern Illinois, and long the target of lightning bolts is to be improved and protected from future damage. When finished the stack will be 175 feet high, the only exceeding it being the 350-foot stack on the Collinsville smelter. At present the stack is 140 feet high. Some of the top must be removed and enough will be added to give the desired height. When finished lightning rods will be placed at the top of the stack. On three occasions lightning has struck the stack, doing considerable damage.

#### WELL KNOWN CLAYWORKER DEAD.

George W. Thomas, 69 years of age, president of the R. Thomas & Sons Company, pioneers in the manufacture of electric porcelain in Ohio and the first firm in the United States to manufacture high voltage porcelain, died at his home in East Liverpool, Ohio, August 10.

Mr. Thomas was born in East Liverpool in 1852, as a boy he learned the door knob manufacturing business, an industry in which the firm that he and his father later organized became interested as the Riverside Knob Works. In 1869 he became associated with his father who effected a co-partnership with Elijah Webster, in the manufacture of door knobs at Beaver Falls, Pa.

In 1873 the elder Thomas disposed of his door knob business in the Beaver Falls factory and returned to East Liverpool, where with his son, George W., he organized the R. Thomas & Sons firm, which engaged in the door knob manufacturing business in a one-kiln plant. In later years the firm name was changed to the R. Thomas & Sons Co.

Mr. Thomas was a director in the Ohio Silica Co., East Liverpool, and the National Silica Co., Oregon, Ill. Two daughters and two sons survive.

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#### STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC.,

required by the act of Congress of August 24, 1912, of The Clay-Worker, published monthly at Indianapolis, Ind., for October 1, 1921.

State of Indiana, County of Marion, ss:

Before me, a notary public in and for the state and county aforesaid, personally appeared Theo. A. Randall, who, having been duly sworn according to law, deposes and says that he is the editor and business manager of The Clay-Worker, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse side of this form, to-wit:

That the names and addresses of the publisher, editor, managing editor and business managers are:

Publisher, T. A. Randall & Co., Inc., Indianapolis, Ind.

Editor, Theo. A. Randall, Indianapolis, Ind.

Managing Editor, none.

Business manager, Theo. A. Randall, Indianapolis, Ind.

Owners are T. A. Randall & Co., Inc., Indianapolis, Ind.; Theo. A. Randall, T. B. Randall and Jas. E. Randall, Indianapolis, Ind.

Known bondholders, mortgagees, and other security holders holding 1 per cent. or more of total amount of bonds, mortgages, or other securities: None.

That the two paragraphs next above, giving the names of the owners, stockholders, security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

(Signed) Theo. A. Randall, Editor.

Sworn to and subscribed before me this 22nd day of Sept., 1921.

(Signed) CHRISTA A. LEWIS, Notary Public.

[Seal]

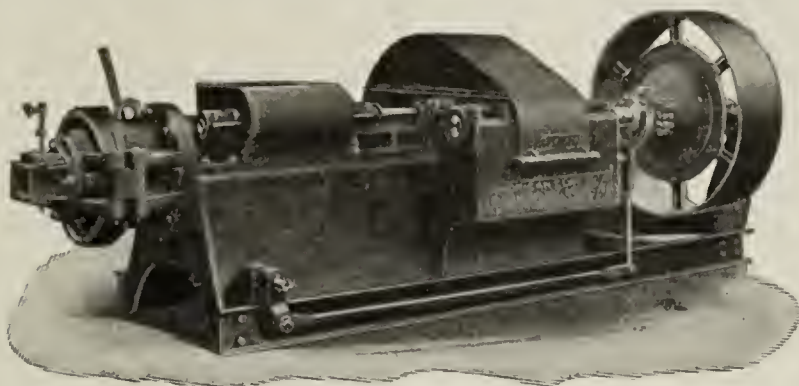
My commission expires June 25, 1925.



# The HADFIELD-PENFIELD STEEL CO.

BUCYRUS OHIO, U.S.A.

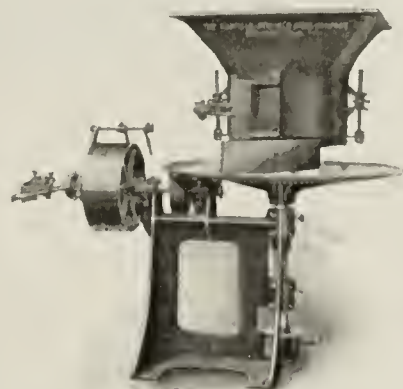
THE AMERICAN NO. 290 AUGER MACHINE.



Massive, Strong, Efficient. It is designed and built for satisfactory service. Large capacity. Get specification Sheet.

THE HADFIELD-PENFIELD STEEL CO., BUCYRUS, OHIO.  
Formerly the American Clay Machinery Co.

AMERICAN NO. 339 DISC FEEDER



This Disc Feeder will insure a perfectly even flow of clay to the pug mill.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

AMERICAN NO. 539 CRUSHER



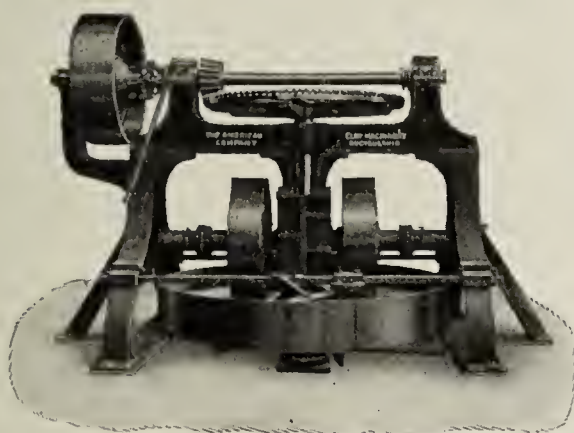
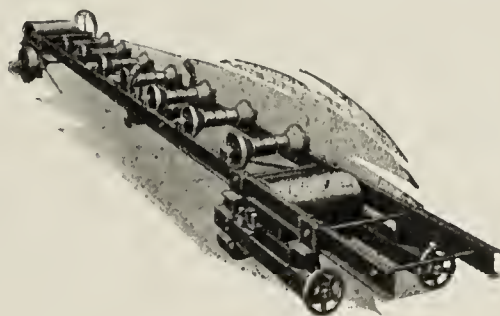
This crusher is backed by a quality which will guarantee performance. A circular describing and illustrating it will be sent on request.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

AMERICAN STYLE "A" CONVEYOR

A structural steel conveyor. Supplied in widths from 18 to 24 inches. Conical wood rolls run in dust proof bearings. Adjustable spider pulleys. No clogging clay. Get price. Give length and width desired.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.



"BUILT RIGHT, RUN RIGHT"  
AMERICAN DRY PAN

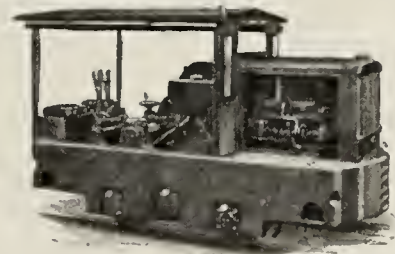
American Dry Pans are noted for quality and capacity. Let us tell you the whole story. Get specification sheets.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

"BUILT RIGHT, RUN RIGHT"

AMERICAN GASOLINE LOCOMOTIVE

Cheap, reliable haulage for clay pit and plant.



THE HADFIELD-PENFIELD STEEL CO.,  
Bucyrus, Ohio.

THE HAIGH KILN.

The Haigh Kiln Saves Half the Coal, Saves Half the Labor.



THE HADFIELD-PENFIELD STEEL CO.,  
Bucyrus, Ohio.



American No. 304 Pug Mill

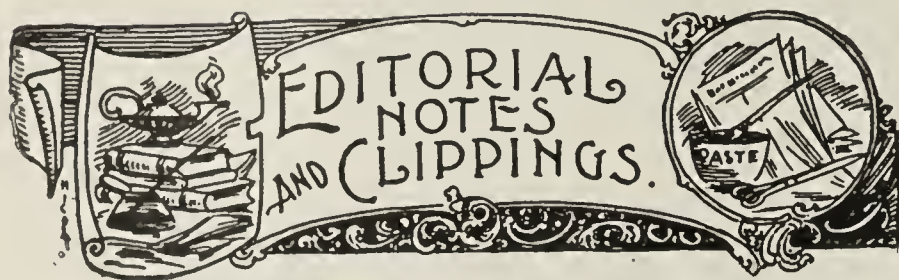
Here's a mill that is light on power. Is built heavy for big capacity and thorough pugging. Get our pug mill circular.

THE HADFIELD-PENFIELD STEEL CO.  
Formerly  
The American Clay Mchy. Co.,  
Bucyrus, Ohio.

# The HADFIELD-PENFIELD STEEL CO.

BUCYRUS OHIO, U.S.A.





Sydney M. Carter, Ronda, N. C., is in the market for machinery for the manufacture of terra cotta.

The Stark Brick Company, of East Canton, Ohio, has filed incorporation papers increasing its capital stock from \$35,000 to \$75,000.

The "San Diego Tile & Brick Co.," 223 Spreckels Building, San Diego, Calif., has succeeded the "Terra Cotta Tile and Brick Corporation."

Edward Harr, an employe of the Soisson Fire Brick Company's plant at Latrobe, Pa., was seriously injured when an explosion occurred in the boiler flue.

The work of rebuilding the portion of the Corning Brick, Terra Cotta and Tile Company, Corning, N. Y., which was destroyed by fire this summer, is under full headway.

The Fox Coal & Clay Company, with headquarters at Cleveland, Ohio, has been incorporated to operate coal and clay mines near Crooksville, Ohio. W. B. Decker and S. H. Carrick are interested.

The plant of the Harbison-Walker Refractories Company, located at Scioto Furnace, near Ironton, Ohio, was destroyed by fire, the loss to the building and machinery being about \$30,000, with no insurance.

The Cisco Clay and Coal company has started the erection of an immense brick manufacturing plant at Cisco, Texas, which, when complete, will have a daily capacity of 50,000 brick. The estimated cost of the plant is \$200,000.

F. Kloefer has taken over the plant of the Foster Brick Company at Boise, Idaho, and now has same in operation turning out 25,000 brick per day. Mr. Kloefer plans to make a number of improvements in the plant during the winter months.

The plant of the Duffney Brick Company, at Mechanicsville, N. Y., was badly damaged by fire in September, which started from an overheated kiln. The loss is estimated at \$25,000. The fire spread to another dry shed, the boiler and engine rooms and a barn.

D. Warren de Rosay, general manager of the Corry (Pa.) Brick and Tile Company, writes they have been very busy all season, running sixty hours a week since the first of June, with a full complement of help, and now have enough orders booked to keep going steadily until snow flies.

The Excelsior Brick & Lumber Company, of Montgomery, Ala., of which F. A. Rhodes is manager, has had a very successful season and Mr. Rhodes is very optimistic over the outlook for an improvement in general business conditions. In addition to manufacturing brick, the company engages in the construction of houses.

Frank W. Shillestad, secretary-treasurer and auditor of the Denny-Renton Clay & Coal Company, Seattle, Wash., died of heart trouble at his home in that city October 3. Mr. Shillestad had lived in Seattle since 1895, and had been associated with the Denny-Renton Company nearly a quarter of a century. A widow, son and daughter survive.

Creed Lawson, president and general manager of the Birmingham (Ala.) Brick Company, reports that after having been closed down for six weeks, the plant has resumed operations with orders in sight to keep them going for some time

to come. They have installed new machinery for the manufacture of rough texture brick for which they have a good demand. Many of their deliveries are made by truck.

Seth Lee Fire Brick Company, Boston, has been organized with \$300,000 capital; incorporators are Thomas W. Pelham, Jr., of Waban, Seth Lee of Newton Highlands and Martin J. Lee, of Boston.

The Atlas Clay Products Company, of Atlas, Mich., has been incorporated with \$30,000 capital stock. F. E. and M. B. Goodrich, 1090 Sheridan Ave., Detroit, and W. T. Shonk, of Redford, Mich., are interested in the project.

The Hobart (Okla.) Brick Company's plant which has been idle since the middle of June, resumed operations the first of October. The company has sufficient orders ahead to insure the plant running full handed for some time to come.

The brick plant at the Kansas State Penitentiary, which was destroyed by fire some time ago, has been rebuilt under the supervision of W. A. Harmon, chief engineer. The plant has been made fireproof this time, and has more capacity than the old one.

The Carolina Shale Brick Co., of Charlotte, N. C., which has been in operation only a little over a year, is turning out a fine grade of shale building brick which has found a good demand in the South. The output is sold exclusively through the B. Mifflin Hood Company, either in Charlotte, Raleigh or Greenville, N. C., or Atlanta, Ga.

The Current Tile Company at Redkey, Ind., sustained a \$10,000 loss from fire which started in the boiler room and spread beyond control in a very short time. The plant had been running full time all summer, and the burned portion will be rebuilt at once. The loss is about covered by insurance. E. G. Schooley is manager of the company.

## BRICK MACHINERY

SPECIALISTS IN  
HIGH GRADE  
PRESSES

*None  
Better*  
SINCE  
1854

MAKERS OF  
UPRIGHT  
MOULDERS

WE BUILD A BRICK MOULD SANDER WHICH OUR CUSTOMERS CONSIDER A VERY EFFICIENT AND ECONOMICAL MACHINE.

WRITE US FOR DETAILED INFORMATION.

We also build Upright Moulding Machines, Red Brick Presses, 9" Fire Brick Presses, 12" Fire Brick Presses, Press Boxes, Horsepower Clay Tempering Machines, Steampower Clay Tempering Machines, Brick Mould Sanding Machines, Grinding Pans, Rubbing Plates, Clay Rollers, Pug Mills, Trucks and Barrows, Brick-makers' Tools of Every Description, Castings for Coal Kilns.

We also make any and all brickyard equipment repairs.

PHILADELPHIA  
BRICK MACHINE WORKS

Successors to  
GEORGE CARNELL  
1820 N. 5TH ST., PHILA. PA.



The Jellico Fire Brick Company has been incorporated at Chattanooga, Tenn., with \$1,000,000 capital stock. Peter Zecheni is president of the company, with headquarters at Jellico.

The Keystone Refractories Company, Wilmington, Del., has been incorporated under state laws with capital of \$600,000 to manufacture firebrick, furnace linings, fire blocks and other refractories.

The New Corunna Brick Co., Detroit, Mich., filed articles of association with capital stock of \$25,000; paid in cash, \$2,000 paid in property, none; per share, \$10. Christian F. Steinhäuser, Henry P. Horn, Edward Stephens and Howard G. Harris, each 50 shares, are the incorporators.

During a severe storm recently the smoke stack of the Albion (Ill.) Brick Company's plant was struck by lightning and damaged to the extent of about \$200 which was fully covered by insurance. Several hundred pounds of dynamite were stored only a few feet away, and the story would have been different if the course of the lightning had been deflected ever so slightly.

The main plant of the Pittsburgh Clay Products Company, located at Eastvale, Pa., was destroyed by fire early on the morning of October 7th. The plant which is leased by W. G. Van Ormer, had been in operation only about two weeks after having been closed down for some time. The office building, located some distance from the other buildings, was saved. The loss is estimated at \$30,000.

The plant of the Dickey Clay Tile Company, Rich Hill, Mo., has been shut down and Manager Myers says it is problematic as to when the plant will resume operations. The shut-down was caused by the general depression and lack of orders, he said. About fifty men will be thrown out of employment. The yards are full of manufactured products and with

orders being almost down to nothing made it necessary for the management to close the plant until the surplus has been disposed of. As soon as a healthy movement of any one certain line is started the plant will be reopened.

Robert Twells, Sr., superintendent of the Key-James Brick Company at Chattanooga, Tenn., recently underwent quite a serious operation. We are glad to know he has practically recovered and is again as active as of old. The plant is running full time as there is a good demand for their brick. In the seven years Mr. Twells has been associated with the company, the plant which is located at Alton, Park, has only been shut down two or three days for slight repairs.

A concern recently organized at Clarion, Pa., is the Clarion Refractories Company, with \$150,000 capital stock. W. F. Marshall is president; L. L. Marshall, vice president; C. L. Marshall, secretary-treasurer; E. M. Little, manager. The company now owns and operates a leasehold of about fifty-four acres of land underlaid with a very high grade of fire clay. A modern plant is now in course of construction which it is hoped to have in operation by the middle of November turning out a high grade of fire brick.

The tile plant of W. F. Norman & Company, Nevada, Mo., has resumed operations after a lengthy shut-down and is now turning out drain tile by the carload. One of the chief products of the plant is hollow building tile. The plant is one of Nevada's biggest manufacturing enterprises and employs a large force of men, so that its resumption will mean much to the business life of this city. Sufficient orders have been received to run for some time and if business conditions improve as has been predicted by bankers and other business heads, it is likely that the plant will be kept going for an indefinite period.

## What are you doing to increase profits?

There are just two means of increasing the profit from the sale of a given commodity,  
by increasing the price  
by reducing the cost

"For accessibility, economy of operation, quality and amount of clay, your HUM-MER screen is without question much superior to any other type of screen."  
*The Globe Brick Co.*

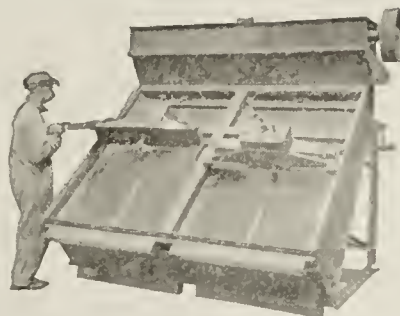
Today, most manufacturers find it difficult to increase the price, but every producer of screened material can reduce his costs by using the HUM-MER Electric Screen.

The HUM-MER will positively do better sizing at a less cost per ton than any revolving, shaking, bumping, or mechanically vibrated screen.

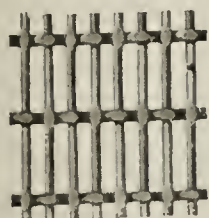
Read what the Bethlehem Steel Company and the Globe Brick Company say about the HUM-MER. These and many other companies are increasing profits by reducing costs with the HUM-MER.

Let us show you how the HUM-MER will increase your profits.

*Send for Catalogue 42-IV*



"We had estimated that these screens would have a capacity of about 25 tons an hour, but in many cases they have handled as much per hour as 110 tons of coal having as high as 10% moisture."  
*Bethlehem Steel Co.*



THE W. S. TYLER COMPANY  
CLEVELAND, OHIO

Manufacturers of Woven Wire Screen and Screening Equipment.





Written for The Clay-Worker.

### THE CHICAGO SITUATION



INDICATIONS have not been lacking that some of the union labor organizations and some of the building material people in other than clay products lines have been endeavoring to continue the old arrangement whereby the Chicago market was closed to any but union materials and workmen, and this in defiance of the new rules laid down by Judge Kenesaw M. Landis as a basis upon which normal building might be resumed in Chicago. The rules promulgated by Judge Landis were calculated to end an oppressive and corrupt situation which has been handicapping Chicago for more than a score of years. These entailed the reduction of wages in many lines to amounts more reasonable than the war-time standards and consonant with the general price readjustments that have been going on for many months. Equally important, however, was their abolition of working conditions and industrial embargoes which have been growing more and more restrictive as time went on. The Chicago daily press generally credits William Schlake and E. M. Craig of the building contractors' organization with co-operating with Judge Landis and supporting his efforts to better building conditions in the great inland metropolis of the nation.

Judge Landis promptly "called" both the union labor leaders and the industrial leaders when he saw these indications of defiance, however, and it now seems probable that the shameful conditions exposed by the Daily Commission of the Illinois State legislature, which have resulted in a number of indictments by both federal and State grand juries, may be ended. The fight to restore normalcy in Chicago building circles, however, has lasted so long (perhaps because the abnormality rested upon a foundation older, more sinister and more deeply rooted than mere wartime exigencies and difficulties) that the year is now well toward its close, and the flood of building which was anticipated in January, and which is urgently needed, has not yet been loosed upon thirsty material manufacturers and dealers and thousands of men facing a dark winter of unemployment. However, a number of the unions have gone back to work at the new scales, and there are other hopeful signs.

With all the discouragements, nevertheless, it is worth noting that the amount of building for this year is several times what it was for 1920. Scanning the records of permits issued by the Building Commissioner's office in the city hall, it appears that the number of buildings started and contemplated this year is about 400 per cent. more than the number indicated for last year. It is further noticeable that in this year's records the small building, and remodeling predominates, so that the amount of money thus invested is not at all in proportion to the increase in number of permits. There is a great deal of apartment building going on now, however, and this line of activity carrying with it always orders for much brick, both common and face brick, much of the latter of the finer and more ornamental grades, is bound to increase in volume during all of next year, if the demand is to be met. Residentially, Chicago at present is very much under-built and while owners of existing buildings who are getting anywhere from a good to an excessive return on their investment, do not want to see it, and perhaps will not admit the probability, it is safe to say that the next twelve or eighteen months will see more residence structures, both apartment and individual, erected in Chicago and its suburbs than any similar period in the last two decades.

That conditions are already improving is indicated for one thing by the renewal of local activity by the W. J. Parsons Housing Company. This concern, although a Chicago enterprise, backed by local men and with W. J. Parsons, a Chicagoan, at its head, has steered clear of Chicago for the last two years, although conducting extensive housing operations in Gary, Ind., Duluth, Minn., Farrell, Pa. and other cities, because of unfavorable labor conditions here. Even now Mr. Parsons is reported as saying that he can build more cheaply in other cities, and that while his company can save perhaps ten per cent. on a two-flat building in Chicago by quantity construction, which saving is passed on to the buyer, twenty-five per cent. would be saved in Gary or other places where the labor market was more favorable. Within a month work has been started on thirty apartment buildings of two flats each by this company on North Mason avenue near Milwaukee and Bryn Mawr avenues. These buildings will each have two five-room apartments, will stand on 30 by 125 foot lots and will be sold for \$10,500.

The New Erdanelle, a combination apartment building and apartment hotel at the northeast corner of Sheridan Road and Lunt avenue, is another multiple residence structure upon which immediate construction is planned by S. A. Danielson and John S. Erickson, who hope to have it completed by next April. It is to cost approximately \$300,000 and have fifty-four apartments of two, three and four rooms each, all with kitchenettes. The exterior will be of light brown brick trimmed with Bowling Green stone and have a green tile roof.

Chicago brick and terra cotta, tile and fire proofing men are taking some cheer from remarks recently made by Franklin T. Miller before the national housing conference of the Chamber of Commerce of the United States. Mr. Miller suggested that if a buyer can secure his material at not more than 60 percent above the pre-war level he was inclined to believe that he faced no unusual hazard in building now "assuming that labor restrictions in his locality are not unreasonable." Mr. Miller based his conclusion upon the fact that rents are high and will continue above the pre-war level for several years; that the general trend of prices will be downward for some time, but that it has been expected for a long time that a halt would come in the downward movement as to building materials, and that this point appears to have occurred, and that a slight reaction upward may be expected in the near future. The market he believes is "still a buyers' market."

One of the largest apartment dwellings announced in Chicago in a long, long time is the three-story building housing 250 apartments which has been designed by Frank A. McNally and J. Edwin Quinn, architects and engineers, to stand in Estes avenue extending from Glenwood avenue to Sheridan road. The cost of the structure is expected to reach \$2,000,000. This will be a brick job worth getting for somebody.

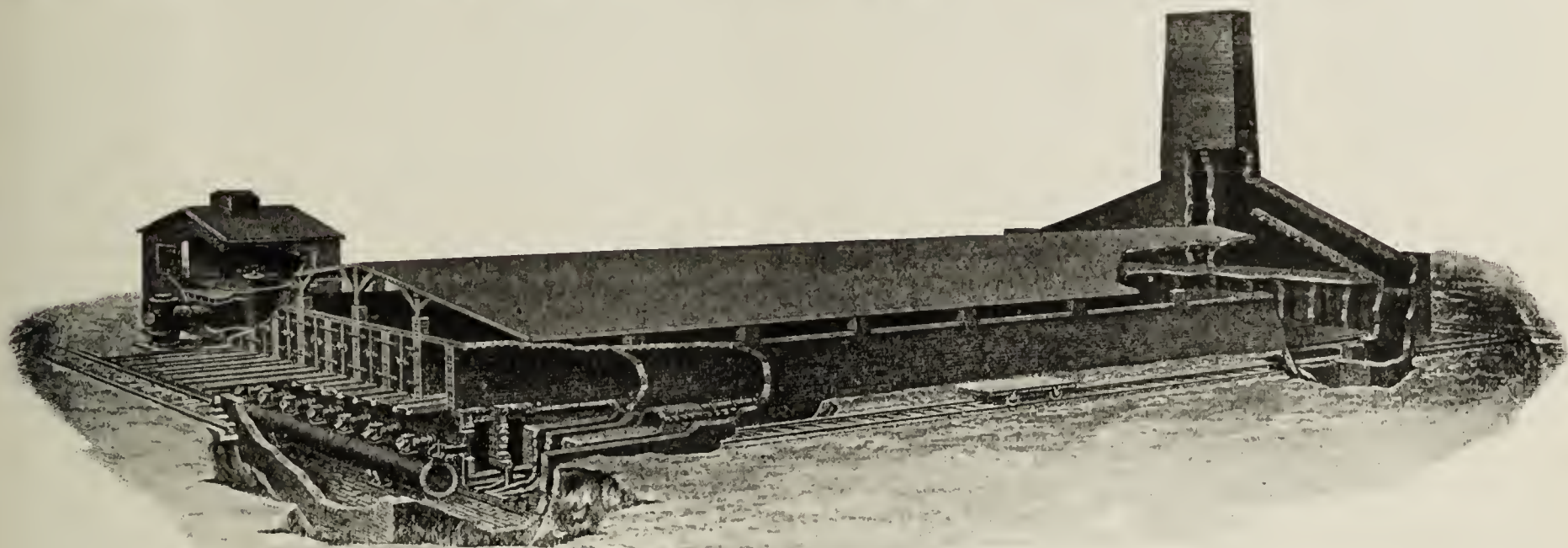
More modest, but still decidedly interesting is the announcement of a \$600,000 flat building to be erected in Rogers Park by a syndicate headed by I. B. Perlman, an attorney, on Pratt Boulevard between North Clark street and North Ashland avenue. There are to be two buildings containing seventy-two apartments, fifty-five of which will be of four rooms, and the remainder of three.

The suburbs are not idle. Hubbard Woods is to blossom out shortly with a "Nottingham Village," a group of brick and stone cottages of English type constructed and operated on the community plan, and with capacity, so 'tis said, for fifteen "newly-wed couples." The establishment is to be run like a first-class club.

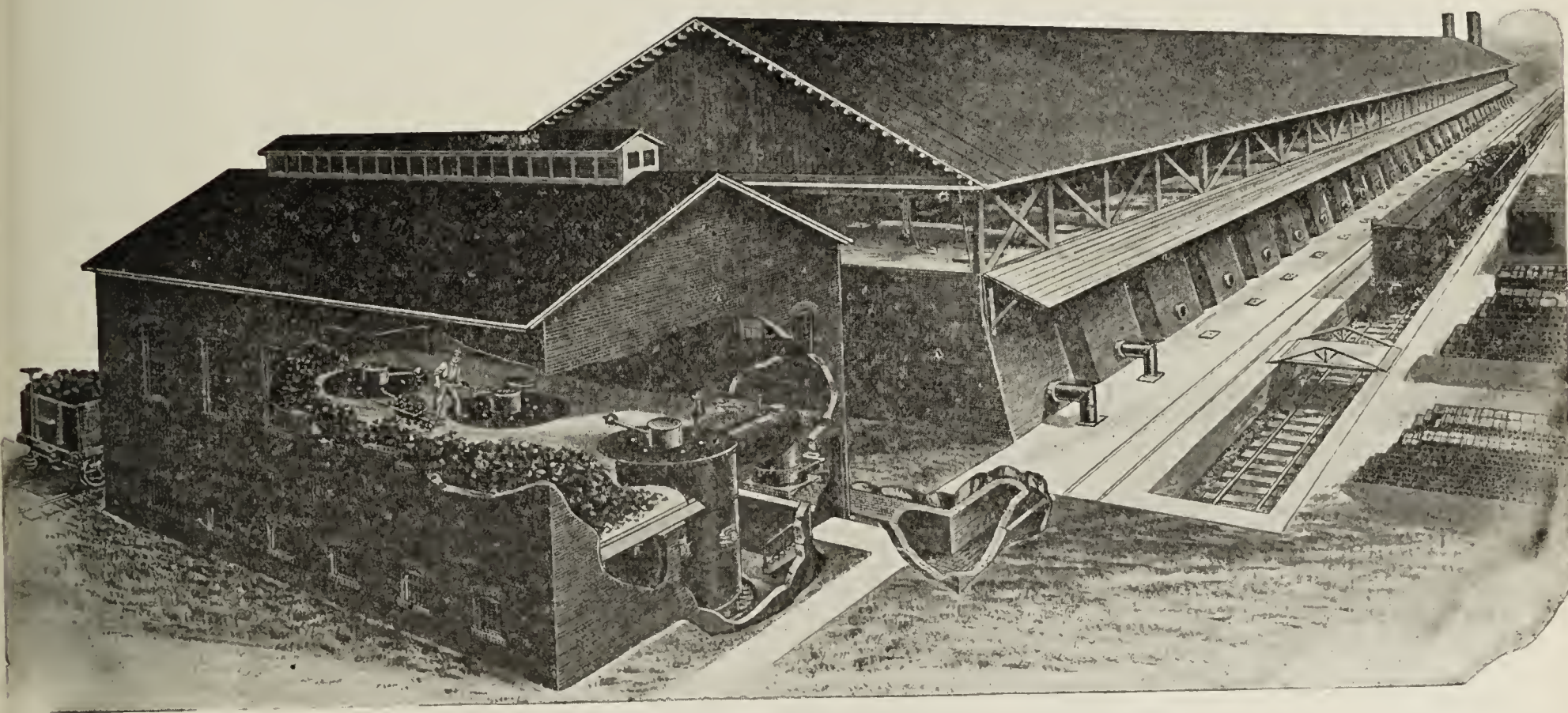
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Mention THE CLAY-WORKER.



Written for The Clay-Worker.

# PACIFIC COAST NEWS.



LADDING, McBEAN & CO., of San Francisco, has been awarded the contract for the brick and terra cotta for the new Standard Oil Building, which is said to be the largest office building west of Chicago. It is to be built just opposite the old Standard structure at Bush and Sansome streets. The amount of investment is about \$4,000,000; it will occupy two years in building; 22 stories high with an area of 28,325 square feet, 425,000 square feet floor space, with an estimated weight of 96,625,000 pounds for the superstructure. Architect George W. Kelham has made the plans and Lingren Co. are the contractors. The terra cotta and granite faced brick for the building is made at the Gladding, McBean & Co.'s plant at Lincoln, Cal. The roof will be made of Spanish red tile and the promenade on the roof will be of promenade quarry tile.

The Homer Knowles pottery plant, located at Santa Clara, Cal., is nearing completion. The people of the Santa Clara Valley are greatly interested in the new plant because it marks the advent of a new industrial era for the community and will be the means of bringing approximately 350 workmen and their families to Santa Clara. The plant complete represents an investment of about \$380,000. The main building has dimensions of 355 feet by 123 feet at one end and 107 at the other. Here will be located kilns, molding shop, decorating department and packing house, with space given every phase of manufacturing operations. W. H. Cook, formerly of East Liverpool, Ohio, and a man well-known to the pottery trade, is superintendent of the plant. Upon his arrival, a few weeks ago, Mr. Cook seemed to be greatly pleased with the general appearance of the plant—not to mention the beauties and far-famed climate of the Santa Clara valley. Probably the largest shipment of English clay ever made to the United States arrived a few weeks ago. It consisted of 672,000 pounds of No. 10 English china clay, 896,000 pounds of No. 12 English ball clay, making a total of 2,240,000 pounds. Harry Cotton, formerly of Sebring, Ohio, has made the first case for casting of a "Pacific" shape covered dinner dish which will be one of the first articles manufactured by the Knowles factory.

The California Pottery Co., which enlarged its plant recently at Merced, Calif., is now operating with a payroll of \$200 per day. Improvements to the extent of approximately \$60,000 have been made during the last few months. The people of Merced have taken a good deal of interest in the plant and

have been liberal in buying stock. High pressure tests of the brick and tile made at the plant have shown excellent results, and Frank Costello, of San Francisco, president of the plant, is registering satisfaction in regard to the outlook of business.

Brick manufacturers of San Francisco announced a reduction of \$5 per thousand on light burned brick which went into effect October 1, while the California Brick Co. made a reduction of from 20 to 33 1-3 per cent on Dickey hollow building tile and Dickey partition tile during the latter part of September. Vertical fibre paving brick has also been reduced about five per cent.

Olaf Erickson of Elsinore, Calif., has been awarded contract for the erection of a store building for the Los Angeles Pressed Brick Co. of Alberhill. It will be built of hollow tile and pressed brick and amount of investment will be about \$9,000.

Vern D. Hedden of Long Beach, Calif., was appointed head of the city building department recently. Mr. Hedden has been active in the building trades for a number of years as carpenter, designer and contractor.

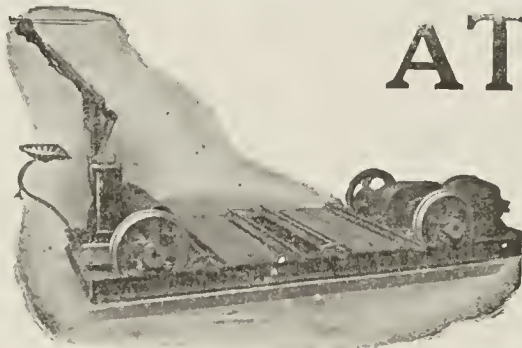
The growing popularity and increasing demand for fireproof homes in Southern California has given rise to a new company in Los Angeles that will specialize in this class of construction. The Fireproof Home Builders, who are now erecting a number of brick hollow wall homes and double bungalows, have established new offices in the Title Insurance Building. An exhibit of the brick hollow wall has just been completed in the company's office to afford the public means of studying this new method of construction. Milton H. Andrew, head of the company, and until recently associated with the Los Angeles Brick Co., has published a booklet on this "Ideal" construction, which is used by over 150 brick manufacturers, representing 41 states, Canada and Australia. The brick hollow wall type of building had its beginning virtually in Los Angeles and this city was the first of large cities in the United States to adopt a building ordinance favoring its use.

An attractive new department store and warehouse building has been completed recently in Honolulu. The terra cotta for this building, which covers an entire block in the heart of the business district of Honolulu, was manufactured by Gladding, McBean & Co., whose offices are in San Francisco. The building is very impressive in design and color, because the oxidized copper color shades of the terra cotta blend well with the natural colors of the landscape and lend it an atmosphere Hawaiian. The building is four stories high, each story having a mezzanine floor. There are arcades on two of the principal streets, a roof garden and all that a modern fireproof building requires. The architect is Louis C. Mullgardt, F. A. & A. of San Francisco and Honolulu.

San Francisco, Calif.

SUNSET.

## ATLAS COST-REDUCING EQUIPMENT



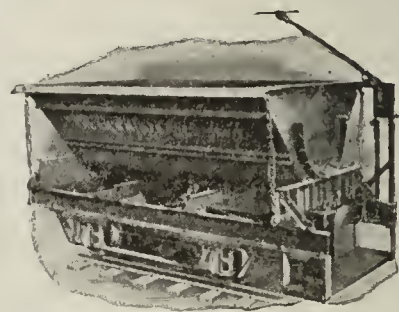
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Written for The Clay-Worker.

# CINCINNATI BRICK AND BUILDING NEWS.



HERE are several angles to the building situation here "different" from the general run, and which are being placed in the public print so there has been more or less speculation and interest aroused by the notice that has been given them. These pertain to the matter of wages for the building operators; that is for the men who are on the job, and the matter of combinations in restraint of trade. The public is being given a real insight into the inner workings of the interested parties.

In the matter of the wage and working conditions there will very probably be some decision made before the close of the present month. The subject has been and continues to be one of the big matters in so far as both the workers and the public is concerned. The arbitration of the question is the most important now, and with the two vital topics, those of wages and hours, settled, there will be at least something upon which the public and the employers can base their future attitude, and this should help to place the topic of building in a light that will help the future of the industry so the prospective builder may go ahead with a fair idea as to the cost of the project.

In the matter of the combination in restraint of trade, or the fixing of prices, the Hamilton county grand jury recently returned indictments against a number of individuals and corporations, fifteen of the former and twenty of the latter, on a charge of having violated the Valentine Anti-Trust law, by conspiring in restraint of trade, to maintain prices of cement. All of the corporations and individuals are connected with the building trades industry and are users or sellers of cement.

No indictment was returned in connection with the brick industry, though on two occasions the grand jury summoned witnesses to make

Reports here show that the brick and clay demands are not very active at this time. The fact that the winter is not far distant is not calculated to help increase the sales, as the larger number of those who contemplate building will defer this matter until the coming of spring. There are still a few favorable reports heard, but the larger number show that the industry is not increasing nor is it likely to do so for some time now.

There are some building brick being made here, but most of the plants have closed down for the season, having an ample supply of brick on hand will be able to care for any further demands and to meet the early spring business as well. Prices on building brick have not been lowered in the past month, but some reductions are noted on face brick prices, the freight rates, however, still having a bad effect on the shipping of brick to outlying sections.

However, there is still a very fair report made with regard to building operations, and some good-sized structures are being planned and will no doubt be gotten under way if the weather does not become too severe. The report of the Building Commissioner for the month of September shows that there was some gain made over the same month a year ago. The total number of permits issued for the month were 1,402, representing a valuation of \$1,125,535. The same month last year shows that there were 1,146 permits issued, totaling \$1,021,275. The first nine months for the present year show 12,948 permits, costing for improvements \$12,536,005.

The Associated Building Industries has now become a reality, it being made up of the members of the Building Construction Employers' Association and the Builders' Exchange. The headquarters of the new organization are now in the old quarters of the Builders' Exchange, 614 Race street. Some improvements were made to care for the increased membership.

W. F. Robertson, owner of the Pakley Park Co., is planning to build two apartment buildings at the northeast corner of Thirty-first and Minot avenue, Oakley. Each building will contain eight flats of four rooms each. The same company will build a duplex apartment building at the intersection of Thirty-second and Thirty-third streets and Robertson avenue.

McLennan Brothers will build two brick dwellings, each to contain seven rooms, sun parlor and basement garage, on the northwest corner of Linwood road and Herschel avenue, Hyde Park.

Oscar Schwartz, architect, has made plans for a two-story store building for P. Fleck, at the southwest corner of Freeman and Central avenues, 40 by 100 feet.

There is only a fair report made by the Moores-Coney Co., with regard to the brick demand. The season being over for the most part there is not a great deal to look forward to now. So the aspect of the brick demand is not very keen now.

There has been a very good report heard at the office of the Queen City Brick Co., the demands for building and sewer brick both being large. In fact, there are now booked a sufficient number of orders to keep the plant busy until the new year. The company naturally feels much elated over the prospects for the remainder of the year.

The Busse Brick Co. say that the call for building brick is not very active now. There is an ample supply of brick on hand to meet all demands for some time and the plant will not operate any more this year. The sales are only fair at present and there is not much counted on for the coming weeks.

While one plant of the Cincinnati Clay Products and Supply Co. is still being operated there has been a large accumulation of brick made so that all fall and winter and even early spring demands can be met. There is not much looked for in the next few months, however. The general building outlook is not very promising at this time.

The E. F. Grand Brick Co. say that the situation is fair, but there are no startling reports to be made at present, and the entire situation is not overly flattering.

There has been little to make the situation other than moderate with the H. B. Shorey Brick Co., where the reports were that the demands were not more than fair at present.

CINCY.

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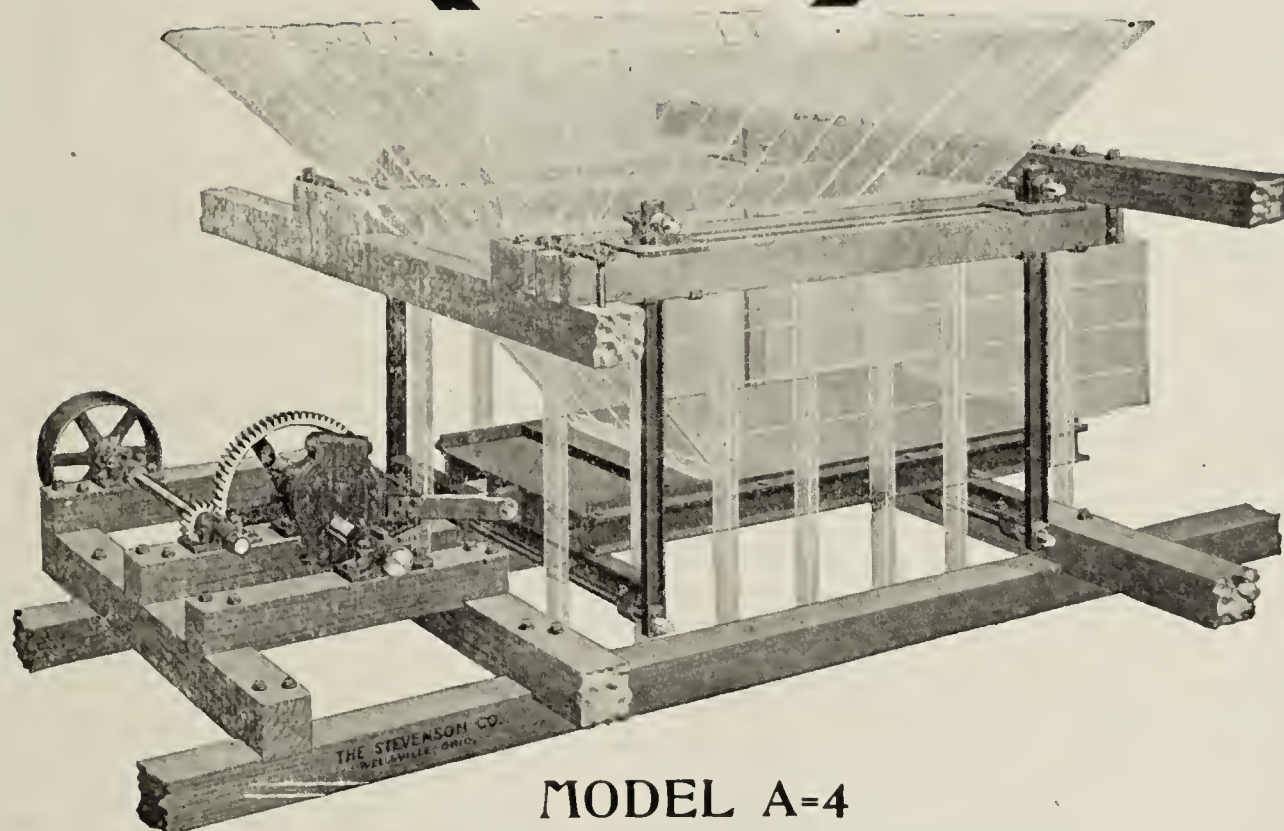
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## NEW YORK AND VICINITY.

(Continued from page 357.)

present outlook there is little likelihood of a price advance, although there may be a change. No one anticipates one at the present time. Rough and smooth texture in the Ruffs stay very close to the \$50.00 mark on the job, though quantity may bring the price down a dollar or two, but in the main they stay close to the quoted mark. Grays do a little better with a variable range of from \$52.00 to \$55.00. Reds are not as high in quoted price as grays and have been quoted at \$45.00 as the average and, in fact, the real price. Hollow tile prices have been reported as going up ten percent. As no confirmation can be obtained as yet the remark will have to pass at that. A price advance in this material is looked for every season around this time, as the prices coming through now are to be the prevailing winter quotations.

The brick manufacturers in the vicinity of Haverstraw estimate that at the rate their brick is being consumed the demand will exceed the supply. They are selling close to one hundred and fifty million of brick each month.

The Onondaga Pottery Co., Syracuse, N. Y., is contemplating the erection of a new pottery mill. In fact construction work has already started, with foundations in for part of the equipment and two kilns have been completed. The estimated cost of the new work has been placed at around \$40,000.

It has been reported that the pottery workers say they will go on a strike unless they can reach satisfactory agreements with the factories. The pottery workers are trying to put through an increase in pay of ten percent, while the factory owners are thinking of putting in a twenty-two percent decrease in wages. The operatives claim to be the most independent and richest union in the country. It is claimed they are not affiliated with any other organization and are strongly organized.

The Continental Clay Company, with headquarters in Canton, Ohio, recently opened a sales office in the Longacre building, at Forty-second street and Broadway, New York. It is planned to open a storage yard in New York, as the company desires to be fully represented in this part of the country.

The Genessee Pottery Company of Chittenango, New York, expects to show several new shapes in tea pots at an early date. This company is making but two kinds of ware, the jet and red glaze. This concern is under the management of Mr. Allen W. Seules, formerly of the D. E. McNicol Pottery Company of East Liverpool, Ohio, with whom he was connected for many years.

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### Letter of Encouragement to Brick Manufacturers

HAVE FAITH IN YOUR INDUSTRY. DON'T BE DISCOURAGED. One by one, all lines of industry have had their boom times, and one by one they have all slid off the top down into the depths of despair—all except the brick industry; this has been in the depths ever since the war started, and is just beginning to crawl out. There wasn't any industry hit harder by the war than the brick industry—it was declared non-essential; it couldn't get coal; and there was very little, if any, building, either industrially or for homes, during the war. It has been a long, hard pull, but just in the exact ratio to the bad times that have prevailed in this industry will be the good times ahead. It has proven itself time and time again in every line—they all had their good times, now most all of them are having bad times. Just grit your teeth and hang on and things are bound to turn out all right. WORK HARD—USE YOUR HEAD, AND HAVE FAITH.

It isn't as though you were engaged in some "fly-by-night" business that didn't produce anything and had no real standing in the world. The brick industry is the third largest industry in this country; bricks are universally used, and have been since the world began; they are absolutely necessary to the very thing that makes this country what it is, namely, home-building; and it is this same home-building that is going to carry this country on to even greater things. Through all the centuries they have never found anything that was better to build with than brick. The future for the brick industry is brighter today than it has ever been, but it is only going to be bright for the manufacturer who goes after it in the right way. Get your plants in shape—visit around and see how other manufacturers make brick—look your plant over and see if it is properly designed and laid out and if there are any labor-saving devices that can be put in so as to **reduce your costs and increase your output**, and, if possible, **make better brick**. No doubt by this time all of your high-priced coal has been used up; labor is down; your clay doesn't cost any more than it ever did. Get your prices down to where there is a reasonable profit in it at the present cost of manufacture, and then you will see the brick industry go ahead. If you are not sure of your processes and plant layout, get in touch with some one who is an authority on designing and building brick plants; some one who has access to and knowledge of all the methods of brick manufacture in this country. Have him look you over the same way a doctor examines you for insurance; let him make suggestions and recommendations, and don't be afraid to spend a little money to get yourself in shape, because it will all come back to you many times over.

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"Martin"  
Brick Machinery  
Originated 1858

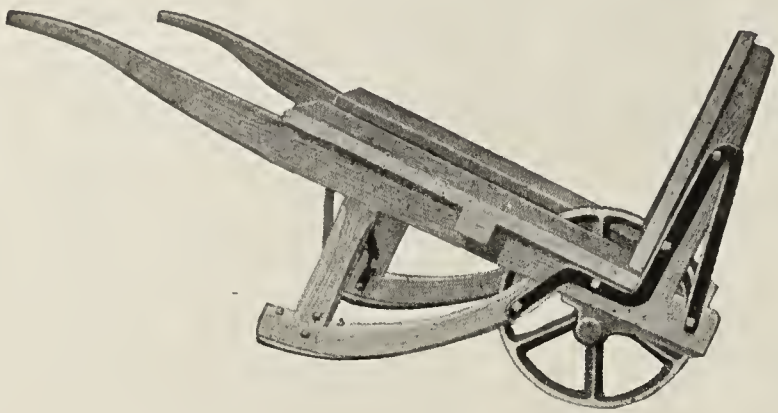
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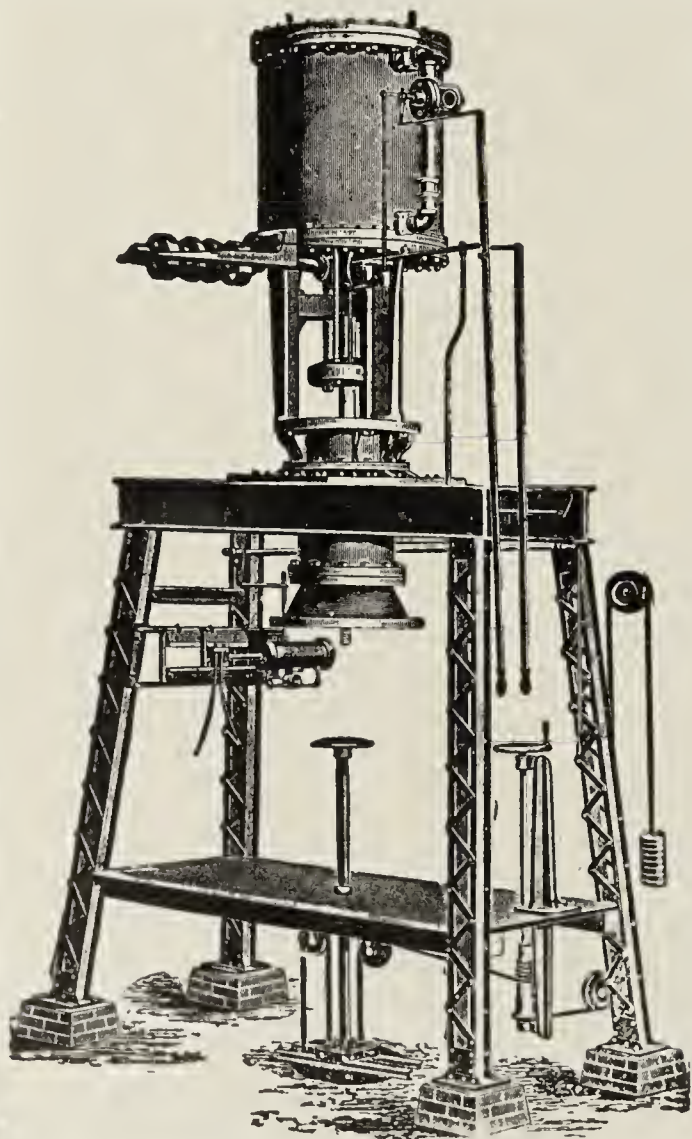
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| Sidney Island Brick and Lime Co.,<br>Sidney Island, B. C.       | Robinsons & Sons Co., Uhrichsville, Ohio              |
| Tropico Clay Prod. Co., Los Angeles, Cal.                       | Robinson Clay Products Co., Akron, Ohio               |
| Big Horn Clay Products Co., Lovell, Wyo.                        | Windsor Brick Co.,<br>Akron, Ohio                     |
| The Red Wing Sewer Pipe Co.,<br>Red Wing, Minn.                 | Shawmut Clay Co.,<br>Shawmut, Pa.                     |
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### Boss Ten-Hour Dryer



Will dry your daily output in TEN HOURS with either WASTE HEAT or EXHAUST STEAM.  
Less cost to build—Less cost to operate.

### Boss System of Burning

Brick or hollow ware burned in ONE-HALF LESS TIME and ONE-HALF LESS FUEL. Increases your kiln capacity. Dryers and kilns designed and built. Let us solve your drying and burning problems.



#### J. C. Boss Engineering Co.

Elkhart, Indiana



YOU HAVE KNOWN FOR YEARS THAT

## RICKETSON'S MORTAR COLORS

are pure and brilliant in tone, economical in application, absolutely reliable, and a permanent guarantee against fading and washing.

### Why Not Insist on Having Them?

They are the acknowledged best for all uses---Mortar, Brick, Cement, Concrete and Stone.

Red, Brown, Buff, Chocolate and Black

## RICKETSON MINERAL PAINT WORKS

MILWAUKEE, WIS.

## CARS CASTINGS DIES

In our Foundries and Machine Shops we are prepared to furnish Dryer Cars, Clayworkers' castings and Dies of all kinds for sewer pipe press and machines, Etc. Write for Prices

**Wm. E. Dee Co. 30 N. LaSalle St.**  
Chicago, Ill.

## Over 60,000 In Use

Oil Burners For All Types of Kilns



Perfected to  
The Minute

### HEAT TELLS!

Write us today

"Be Sure It's Schurs"

## SCHURS OIL BURNER CO.

Established 1905  
Los Angeles, Cal., U. S. A.



# Classified Advertisements

## FOR SALE, WANTED, ETC.

Advertising rates in this column 35 cents a line, or 6 cents a word each insertion; about six words make a line. Cash should accompany the advertisement to insure insertion. No ad inserted for less than \$1.00.

## WANTED, ETC.

### WANTED.

Second-hand combined pugger and augur machine for pugging purposes. Address, P. D. T., 10 1 c  
Care Clay-Worker.

### WANTED.

Used Boyd dry press, four mold special fire brick type. Must be the latest model and in first-class condition. Address, DRY PRESS, 10 1 d  
Care Clay-Worker.

### WANTED.

Position as manager or superintendent of brick or hollow ware plant. Several years of practical experience. Married man. Can give references. Address, L. A. P., 10 1 d  
Care Clay-Worker.

### WANTED—RIGHT MAN.

For good position as foreman in brick and tile plant. Must have good character and ability to take full charge. Married preferred. State experiences and places employed with full particulars in your application. Address, PIONEER, 10 1 cm  
Care Clay-Worker.

### WANTED.

Ceramic Engineer; prefer one with one or more years' experience. Good opening for a young man who can show himself competent. Must be able to assist in operating large plant. Good opportunity for advancement. Address, stating in first letter experience, reference and salary you will be willing to start at. Address, ENGINEER, 10 1 d  
Care Clay-Worker.

### WANTED POSITION.

Young man, single, 23 years old, desires responsible position where hard and earnest work will be appreciated. Familiar with correspondence, secretarial work, typing, purchasing, sales correspondence and follow-up work and general office work. Formerly employed by a large clayworking machinery firm. Apply, CASS, 10 1 d  
Care Clay-Worker.

### WANTED.

A clay feeder.  
A lot of cast iron frame dryer cars.  
A set of smooth clay rolls.  
MILLEDGEVILLE BRICK WKS. CO., 10 1 d  
Milledgeville, Ga.

### WANTED.

Position as superintendent or manager of brick plant. Am a practical man in all leading lines from clay pit to office. Am A No. 1 burner. Address F. D. K., 8 3 c  
Care Clay-Worker.

### WANTED TO EXCHANGE.

7,500 acres of valuable undeveloped Michigan farm land for going brick and tile factory. Cash for difference. H. H. GARDEN, 8 3 cm  
Salem, Va.

### WANTED.

Superintendent for brick plant. One with experience in keeping up machinery, and with knowledge of burning up and down-draft kilns. Must be able to give reference. State salary wanted and experience have had. Also advise if have had experience in making tile. Address, P. O. BOX 194, 10 1 d  
Wilmington, N. C.

### WANTED.

A live, energetic, up-to-date man as superintendent of a large paving brick plant. Must have a thorough knowledge of the paving brick business and especially skilled in burning. In replying state age, experience and salary expected. Address, ENERGETIC, 9 1 d  
Care Clay-Worker.

### WANTED.

By a high-class, well qualified man, position as superintendent or manager of hollow ware plant. Have had practical experience in manufacturing all kinds of hollow ware, including silo block and conduits. References as to ability, etc. Address, HOLLOW WARE, 9 3 d  
Care Clay-Worker.

### WANTED POSITION.

As foreman or superintendent of building brick, face brick or hollow building tile plant. Particularly qualified to manage the mechanical department. Many years of experience and the best of references. With one plant eleven years. Permanent position desired, Middle West preferred. Correspondence solicited. ADDRESS PRODUCTION MAN, 10 1 dm

### WANTED TO BUY.

About 300 second hand double deck dryer cars in good condition. M. F. FAIRBANKS, 9 1 cm  
Metamora, Ohio.

### WANTED—TO EXCHANGE

240 acres of farm land in Macoupin County, Illinois, for a small brick or tile plant. Address E. W. G., 9 3 c  
Care Clay-Worker.

### WANTED—POSITION.

Twelve years' experience in manufacturing clay products desires position with company where ability and character will give prospect of advancement. Address, J. C., 10 1 d  
Care Clay-Worker.

## FOR SALE

### FOR SALE.

Four mold Boyd brick press. Special heavy duty type, operated two weeks. Excellent condition. Address, QUICK ACTION, 10 1 d  
Care Clay-Worker.

### FOR SALE.

One No. 41 American Augur Machine, price for immediate sale \$400.00. Also one Champion Rock Crusher, price \$200.00, F. O. B. Byesville, Ohio. THE NICHOLSON CLAY PROD. CO., P. O. Box 155, 10 3 cm  
Cambridge, Ohio.

### FOR SALE.

Five Raymond 9-foot dry pan, \$600.00 each.  
Three Raymond Victor represses, \$400, each.  
Used nine months and in first-class condition.  
One Martin style D steel soft mud machine, complete with 12 molds, price \$400.00.  
J. E. WALLING, 691½ Wilson St., 10 1 cm  
Portland, Ore.

### FOR SALE.

Brick manufacturing plant. Situated on the Hocking Valley railroad, at Union Furnace, Ohio. 230 acres of land, containing buildings and equipment and a very large amount of clay suitable for making the famous Columbus buff, gray and speckled face brick, also red dry pressed face or rough texture brick.  
For particulars address MR. F. F. HOFFMAN, Secretary, 85 North High Street, 8 3 cm  
Columbus, Ohio.



Classified Advertisements.

FOR SALE.

Fate Imperial combined machine for brick, tile and hollow ware. Now running in Northeastern Indiana. Purchased four years ago. In excellent condition. Price for quick sale \$300.00, including tile dies. Address,

MACHINE,  
9 2 d Care Clay-Worker.

FOR SALE.

One two-mold Fernholtz dry press, complete with several sets of extra ornamental molds and dies, rolls, elevator, mixer, line shafting, pulleys, etc. Complete equipment for entire 10,000 capacity plant.

Also, one two-mold Raymond repress complete with extra set of molds and dies for pavers. New, never used.

One Raymond 777 auger machine, having made only 800,000 brick. Extra set of augers and knives for same. New.

SUPERIOR PRESS BRICK CO.,  
3190 S. Kingshighway,  
8 t f d St. Louis, Mo.

FOR SALE.

One Chisholm, Boyd & White Dry Press.

Two new Elwell Parker type "EG" elevating platform electric trucks; 4 American 9 ft. dry pans; 2 new steel leg bucket elevators for same; 1 Newaygo clay screen; 1 70 KW. 250 volt D. C. generator; 2 new 40 H. P. A. C. motors; 3 pit cars; 1 jaw crusher; 1 new 20 K. W. 125 volt D. C. generator; 100 ft. heavy line shafting with all fittings. If interested in any item, write for further information to

BRADFORD BRICK & TILE CO.,  
2 Main St.,  
7 t f d Bradford, Pa.

BRICK MACHINERY FOR SALE.

Arnold-Creager Automatic and SSS, Potts, Martin, Hercules, Bonnot, Freese brick machines; largest International hollow ware machine, never used; 10, 14, 16 ft. pug mills; Freese, Brewer, Steele automatic cutters; 2AT, 6AT, 7 AT Bensing tile cutters; Climax crusher; Fate clay feeder; 6,000 galvanized pallets, 10x34; 22,000 A-1 white pine pallets, 10x34; 48 in. by 50 ft. rotary dryer; tailing crusher; Penfield 24 in. combined disintegrator and crusher; No. 5 A-C disintegrator; Frost dry pan; 2 and 6 mold Boyd dry presses; new Potts sander; dryer fans; steam engines, 30 to 100 H. P.; 500 H. P. Corliss; 200 H. P. twin Chandler and Taylor; boilers; pipe rack dryers; fully equipped brick yards. Write for prices on brick molds, barrows, trucks, etc.

FRANK McCLELLAN,  
14624 Ardenall Ave.,  
7 t f d East Cleveland, O.

FOR SALE.

One hundred and ten double deck dryer cars, in god condition. Address,  
CARS,  
9 t f d Care Clay-Worker.

FOR SALE.

Brick-making plant, soft mud, in good working order, on D. L. & W. R. R., with private siding, 25 miles from New York City. Capacity, 50,000 brick daily. Ample supply, excellent quality clay. Good market available. Price, \$15,000.

Address, BRICKMAKER, care of Mutual Service Corp., 140 Cedar St., New York City.  
10 1 d m

ATTENTION

The control of the Pacific Coast Trade in pottery and clay products is yours, if you have the ability to handle it. We have unlimited quantities of white-burning china clays, infusorial earth, beautiful red-burning clay, fire clay, and all the raw materials necessary to carry on a business worth millions. BLUE MOUNTAIN REFRACTORIES CO., Ltd., 2563 Oxford St., Vancouver, B. C., Can.

RICHARDSON

For RAILS

Ready for immediate shipment; New and Relaying Rails, Spikes and Bolts; Frogs and Switches. Call, telephone, write or wire. Richardson means Service.

Richardson  
& Co., Inc.  
2101 Oliver Bldg.  
Pittsburgh, Pa.

WELL DRILL FOR SALE.

One new (never used) No. 25 New Armstrong blast hole drill, without power, but adapted to either motor, kerosene or gasoline engine drive. Address,

SILICON PRODUCTS CO.,  
Rm. 18 Ridgway National Bank Bldg.  
9 3 c m Ridgway, Pa.

MACHINERY FOR SALE.

We have located in the South: One 30,000 capacity stiff mud machine. One 9-ft. iron frame dry pan with an extra set of screen plates.

One hundred single deck dryer cars with about 8 ton of rail.

One side cut automatic table and one Steele end cut automatic table.

Will make low price to move outfit.

Address, A. SMITH,  
9 1 d Care Clay-Worker.

PLENTY OF IT  
TILE AND BRICK CLAY

RIGHT IN THE WORLD'S  
LARGEST GAS FIELD.

A-1 RAIL FACILITIES.

BIG TRADE TERRITORY.

INVESTIGATE NOW.

WRITE TO  
ARKANSAS AND LOUISIANA  
MISSOURI RAILWAY CO.  
MONROE, LOUISIANA  
9 2 d m



The Parker-Russell  
Mining and Manufacturing Co.  
ST. LOUIS, U. S. A.

Fire Clay and Silica Products of Quality for Service---  
Especially for Kiln Construction.



## MANGANESE

BEST QUALITY MANGANESE, CAREFULLY AND UNIFORMLY PREPARED FOR BRICKMAKING. WRITE US FOR SAMPLES AND PRICES.

NATIONAL PAINT AND MANGANESE CO.  
LYNCHBURG, VA.

MINERS AND GRINDERS.

Brick manufacturers who have anything in the way of second-hand machinery or appliances, will find a ready market for same through a card in our Classified Advertisements. Superintendents, yard foremen, burners, etc., desiring to make a change, will do well to run a Wanted ad in our classified department. Clay-Worker ads bring results.

## Anchor Brand Colors

For Mortar Cement and Brick.

BROWN, BLACK, RED AND BUFF.

Strongest and Most Durable.

Manufactured by

C. K. WILLIAMS & CO.

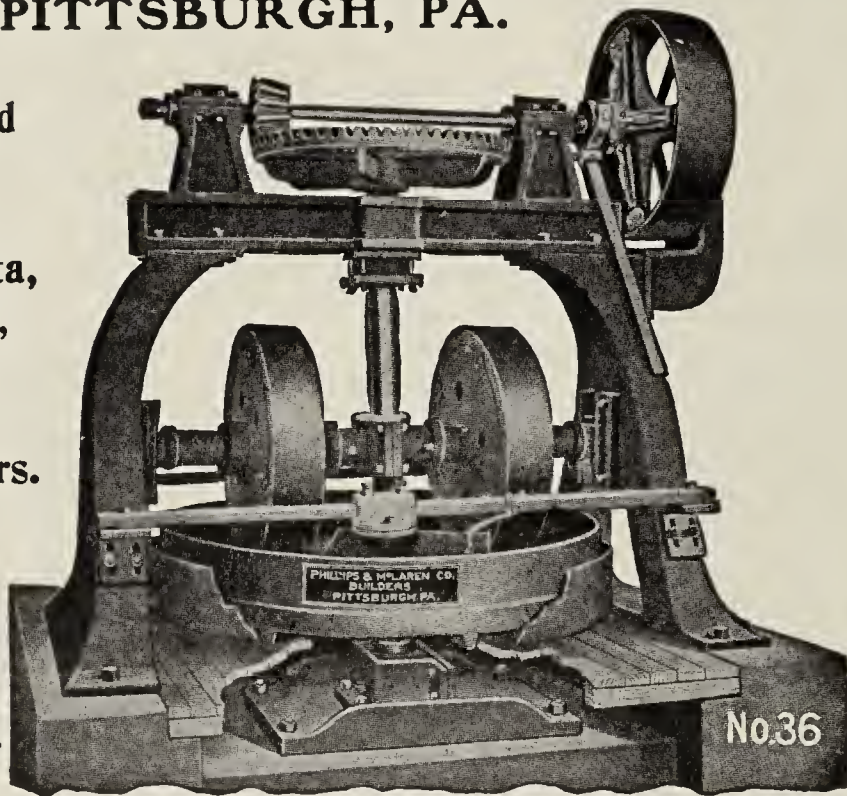
EASTON, PA., U. S. A.

Correspondence solicited.

## PHILLIPS & McLAREN CO

PITTSBURGH, PA.

Builders of  
Pittsburgh Standard  
Dry and Wet  
Grinding Pans  
for Brick, Terra Cotta,  
Sand, Cement, Ore,  
Refractories, etc.  
Also  
Rock and Ore Crushers.



When writing for prices state kind of Clay or Material to be ground and capacity desired.

Eastern Sales Office  
Stephen Girard Bldg.  
Philadelphia, Pa.

## Chattanooga Paint Co.,

Chattanooga, Tenn.

Manufacturers of

Red Oxides for Brick-  
makers' Use.

ECLIPSE MORTAR  
COLORS,

Red, Brown, Buff, Black.

# R

### Branches

Chicago  
Cleveland  
Boston  
Philadelphia  
Trenton  
Pittsburgh  
New Orleans  
Kansas City  
San Francisco

Authorities recommend; Builders and Owners Desire

## SCUM PROOF PRODUCTS

These can be procured by the use of

## R & H PRECIPITATED CARBONATE BARYTES

The Roessler & Hasslacher Chemical Co.

New York, N. Y.

"America's Leading Ceramic Material House."

# H

### Works

Perth Amboy,  
N. J.  
Niagara Falls,  
N. Y.  
St. Albans,  
W. Va.  
Los Angeles,  
Cal.

# C

# C



# Broaden Your Brick Market

Now is the time to boost your  
local business as never before.

## Advertise

We have prepared a series of advertisements suitable for a year's campaign. We are extending this to the trade free of charge, hoping the brick manufacturers will enter into a general campaign to awaken interest in building.

**A complete set of these advertisements will be sent upon request.**

**Electrotypes will be furnished at a nominal price.**

**WE ALSO FURNISH PUBLICITY MATTER.**

**The Clay-Worker's FREE ADVERTISING SERVICE.**

**FREE TO READERS of the CLAYWORKER**

**FOR USE IN NEWSPAPERS, MAGAZINES, FARM PAPERS, CIRCULARS-ON PAMPHLETS, LETTER HEADS ETC.**

**COPY OF ANY OR ALL OF THESE WILL BE SENT ON REQUEST. ORDER BY NUMBER. CHARGE WILL BE MADE FOR EXTRA QUANTITIES. Charge for Electrotypes. T.A. RANDALL & CO. Indianapolis, Ind.**

1. WOOD BURNS  
2. *Brick Variety*  
3. THE ULTIMATE COST  
4. Why  
5. *Brick Perfection*  
6. LET THE PLASTER WINDS HOWL  
7. THE Roman Colosseum IS IN PERIL  
8. BUILD RIGHT  
9. LISTEN!  
10. *Brick Character*  
11. The Father of His Country Built With Brick  
12. *Brick Bonds*  
13. Remember the DAYTON FLOOD  
14. *Brick Security*  
15. LOOK AROUND  
16. 6 REASONS  
17. DOWN TO BRASS TACKS  
18. THE ULTIMATE COST  
19. BURN UP YOUR CHILDREN?  
20. BUILD RIGHT  
21. BUILD WITH BRICK  
22. BUILD RIGHT  
23. BRICK CONSTRUCTION IS CHEAPEST  
24. BUILD WITH BRICK  
25. BUILD RIGHT  
26. \$5 DOLLARS TO YOU \$5  
27. *Brick Craftsman*  
28. *Brick Dugality*  
29. Why Brick?  
30. FIRE'S ANTI HAVOC  
31. MR. BUILDER  
32. *Brick Colors*  
33. 250,000,000  
34. BUILD RIGHT  
35. TIRE FIRE!  
36. Which?  
37. *Brick Economy*  
38. Brick Construction Best and Cheapest  
39. *Brick Adaptability*  
40. FACTS  
41. *Brick Permanence*  
42. April Showers May Flowers  
43. *Brick Supremacy*



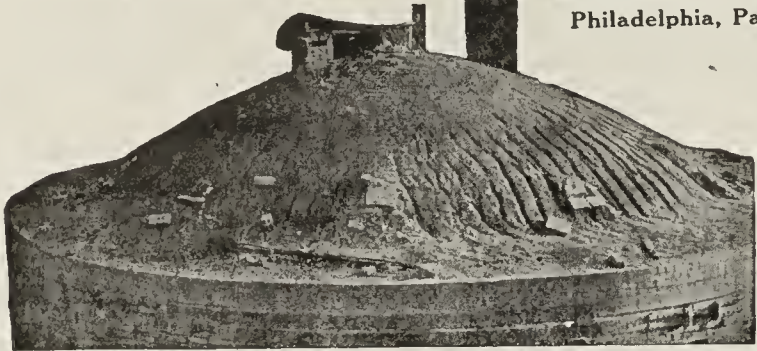
## Make your kilns turn out uniformly good work.

A reputation for consistently high grade product can be assured only by standardizing your operations. Thwing Pyrometers give you the information you must have to standardize your kiln burning operations--instant and accurate temperature determinations, easy to make, and for permanent record if desired. A Thwing Pyrometer installation is sure to save its cost many times over in reduced waste of fuel, increased saving of time, and assurance of more uniform and better quality of product. Write for full information. 110

# THWING PYROMETERS

Thwing Instrument Co.

Lancaster Ave.  
and Cuthbert St.  
Philadelphia, Pa.



With Chase Flexible and Reversible Bearing  
and Folding Deck.

Single, Double and Triple Deck Dryer Cars,  
Transfer and Dump Cars, Turntables,  
Switches and Trackage.

The Chase Foundry & Mfg. Co., Columbus, O.

Written for THE CLAY-WORKER.

### OHIO CLAY NOTES



AMONG THE EXHIBITS which attracted favorable attention at the annual Starke county fair in September was one of brick in the merchants display hall. It was a permanent exhibit built of brick and it served as a demonstration of how useful brick is in the construction of the home.

The display presented an elaborate brick chimney open fireplace and several ideas of brick construction, showing the attractiveness of face brick and how it looks when in a wall. It showed in how many ways brick construction was superior to all other types. To the front of the exhibit was a wall four feet in height of Metropolitan paving brick, showing how this brick appears in a home or business block.

The exhibit was a collaboration of the Belden Brick Company and the Metropolitan Paving Brick Co. and was built by Canton bricklayers.

During the four days of the exposition these companies had representatives in the booth distributing literature bearing on brick. The slogan, "Build with Brick," was conspicuous in the booth decoration.

It was one of the best advertising stunts at the fair and was the source of much comment among local manufacturers and merchants.

It is announced that New Philadelphia, Ohio, may obtain the new sewer pipe plant of the Donahey Power and Products Co., Cleveland, of which former State Auditor A. V. Donahey is president.

The company will build its plant somewhere between the Marietta division of the Pennsylvania railroad in Stonecreek Valley and Newport, two miles south of Uhrichsville. The firm has options on several desirable sites and the plant will be built where the most desirable economical conditions prevail and the best raw materials can be found within twelve-mile radius.

The firm expects to sell sufficient stock to build and equip a plant for the manufacture of sewer pipe of all kinds and building materials from the famous clay vein which has made Tuscarawas county, where it abounds, one of the greatest clay districts in the world.

State Director of Public Welfare MacAyeal announced recently that he had ordered William M. Arehart, superintendent of the state brick plant at Junction City, relieved from further service, effective at once. L. L. Fouts, foreman at the plant, has been appointed to take temporary charge of the plant until the state civil service commission can call an examination and certify an eligible list, from which the permanent appointment will be made. Charges of inefficiency and neglect of duty against Mr. Arehart were made by Director MacAyeal.

In a petition filed in common pleas court, W. J. Frey, a stockholder, has asked for the appointment of a receiver for the Universal Clay Products Co., of Sandusky, on the ground that there is due him "a large sum of money." The company manufactures insulators and other clay products used in electrical work. Its plant was reopened a month ago after a year of idleness.

Directors of the General Fireproofing Co., at their annual meeting at Youngstown, declared a quarterly dividend of one per cent on the common stock, payable October 1 to stock of record September 24, and the regular quarterly preferred dividend of 1 3/4 per cent, payable October 1 to stock of record September 29. The same dividend was paid on common stock July 1 as will be paid October 1. Business with the



company is holding practically unchanged in volume, permitting about 60 per cent operations.

The Minor Fire Brick Company's plant at Empire, Ohio, has resumed operations after being idle for six months. The company furnished employment for 75 men who returned to work. Indications point to a resumption of other brick manufacturing plants in the Empire and Toronto district within the near future.

The Buckeye plant of the McLain Fire Brick Works is the only plant of the concern in this district that is operating at the present time. The Champion plant, at Silver Switch is still idle.

The demand for building brick continues good in the Canton district. P. C. Belden, secretary and general manager of the Belden Brick Company, reports that the industry locally shows signs of a permanent revival and prices are becoming stabilized, they being approximately equal to the cost of production.

"All seven of our plants are operating," said Mr. Belden to The Clay-Worker scribe. "This alone is a good indication that conditions are improving. Orders are more plentiful and inquiries are more frequent than in former months."

Extensive improvements are being made to the plants of the Belden Company in Canton, Port Washington and at Somerset, Ohio. The machinery in these plants is being modernized and among other things waste heat dryers are being installed in each of the plants.

Mr. Belden predicted a drop in freight rates which will directly affect the brick industry and will mean lower prices and an increase in business. He says, however, that this expected drop in freight rates will not come before early in 1922.

Building activities are unchanged, there being a good volume of building in progress in the Canton district for this season of the year.

All four plants in the Canton district and the three in Youngstown, of the Metropolitan Paving Brick Company, are operating at full capacity for the first time this year.

"In an effort to get out all orders promised for fall deliveries all plants have been working full time and from present indications the factories will continue to operate full time until November 1, at which time all orders now on file will have been shipped.

There is not a great demand at the present time for paving brick, and no one seems to know just what the prospects for next spring are at this particular time.

The Bonnot Company, Canton's largest manufacturers of clay-working machinery in that section of Ohio, report there is considerable business along this line, which is an indication that clay-working plants are making preparations for a big year in 1922. A. A. Oldham, secretary and treasurer, reported recently.

"Demand for clay-making machinery at this time compared to a year ago, is about 35 per cent of normal," said Mr. Oldham.

There is a big demand for new machinery to replace that of obsolete types and worn-out machinery. Much new machinery also is being made for plants not only in the Canton district but everywhere, the majority of which are expanding and enlarging their factories.

Mr. Oldham said his company was contemplating placing some new-style machinery on the market soon, of interest to the clay products manufacturers but at this time he was not ready to divulge its nature.

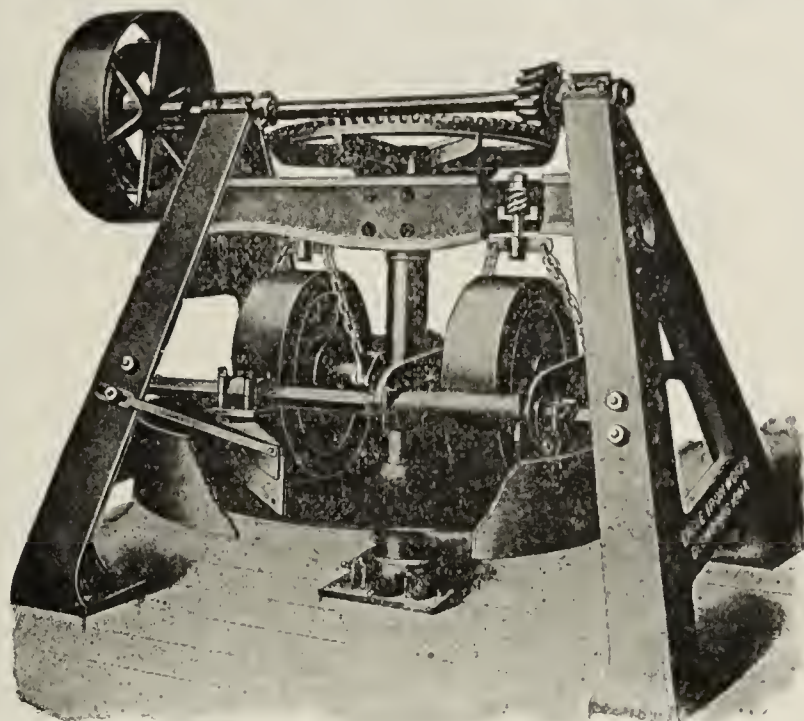
BUCKEYE.

It is a splendid idea to reduce the cost of production whenever you can without impairing quality, but in the meantime remember that another way to get profit is to ask for and insist upon a fair price.

## Independent and Suspended Mullers

the distinguishing feature of our

# DRY PANS



Other valuable features which our catalogue fully describes.

## EAGLE IRON WORKS

Des Moines, Iowa



Write for a copy

Fully describes the caterpillar type shovel that steers by power from the cab. Read about the complete lubrication of treads that makes the caterpillar type ERIE a faster traveler, a more powerful climber, and a much more durable machine.

These features and many others are described in our new Bulletin W-60. You are welcome to a copy—no obligation. Mail us this coupon:

— **BALL ENGINE CO., Erie, Pa.** —  
Gentlemen:—Please send a copy of your new Bulletin W-60, describing the ERIE caterpillar type mounting, in detail.  
Name .....  
Address .....



# MARTINIQUE



NEW YORK

THE famous name Martinique is restored to this great New York hotel. But it is a *new* Martinique—new in decoration, in furnishing and in management. The charges are genuinely moderate.

Pleasant rooms as low as \$2.50. Popular club breakfasts from 45 cents to \$1.00. Substantial luncheons and dinners at \$1.25 and \$1.75 and a well prepared and quickly served selection of satisfying dishes a la carte at new prices. *Affiliated with Hotel McAlpin.*

*Frank E. Jago, Resident Manager*



*32nd Street and Broadway*

Written for THE CLAY-WORKER.

## NEW ENGLAND NOTES

CONDITIONS in this section have improved to such an extent during the past fortnight, that danger of over-extension is a possible drawback to be encountered. The way order-taking has been going on indicates there has been no regard for prices or possibilities of delivery. Such conditions will rapidly give way to more conservative buying, and keener salesmanship. In a great many instances some of the slack plant capacity has been safeguarded, by enough new business, to warrant at least part-time manufacture, until such time as the building movement will demand more out-turn of material.

As a whole, the general construction market reveals itself as accumulating strength. This is evidenced in the more active inquiry with a gradual stiffening in price to be noticed here and there, and in many instances by actual price advance. In a great many instances in the brick industry throughout this section, there is such a demand for this basic building material, that the manufacturers are up to "hot brick." This would indicate there is not very much shed reserve, if there is any. Some manufacturers are protected against such a menace by having sufficient on hand to cover their immediate needs; others, less fortunate, are often taking their brick from the kiln to the building operation.

As a whole, the building situation throughout this section is developing a condition that rivals the year 1920. The total contract awards are running into sums containing seven figures and are in all only twenty per cent. under what was reported for a like period a year ago. When the same period is compared with the year 1918, this year's totals share an increase of nearly four hundred per cent. There is plenty of work on the tables and nearly as much out for estimating purposes, that would give use to a future worthy of a good deal of optimistic assumptions from all parties concerned.

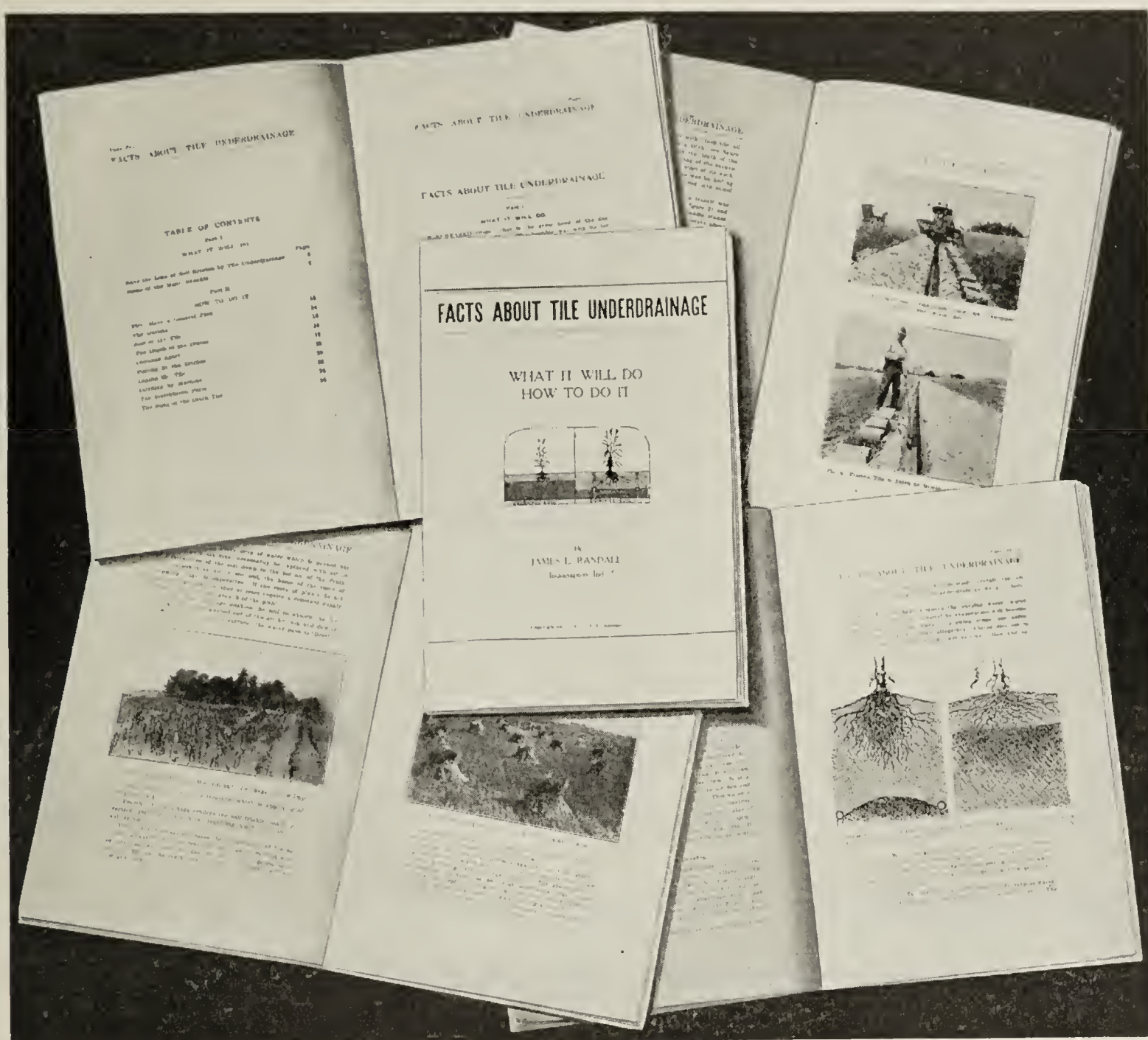
The market as seen today is in a way developing a manner of a firm and relatively easy tone. This is helping the situation by causing the expectant builder to take hold, as the present levels are at a point worthy of his consideration. By most, the present price situation is well established. One of the largest dealers in the basic building materials in this section is quoting commons, f. o. b. job, at around \$17 per thousand. These prices are for sand-struck hard-burned brick. New York brick are doing a dropping act, this class of brick formerly sold for \$20 or thereabouts have fallen to the level of approximately \$1.00 below the old figure. Where \$20 held, they are now \$19. Quite a few dealers are moving their stock at this latter figure, while there are others that are holding to the former level. The brick from Connecticut are going forward at a price quoted f. o. b. job which is \$21 to \$22, according to quantity, length of haul and reserve.

Face brick of good quality is moving out at around \$31 to \$35, several factors seeming to enter into these figures to cause the variation. One of the principal features to consider is availability, and seems to play a big part; quite often the length of haul has a deal to do with price fixing. To take the kiln run the price asked is close to \$30; this may vary a dollar or two one way or the other, and rests somewhat with the ideas of the one selling. Varieties of face brick have several price ranges. Rough textures are going out at around \$55 for the better qualities, while the other qualities are procurable at around \$40 to \$55.

By way of comparison of prices, take the Boston center and the Providence center. The distance between is not great, and partition tile in the 4-in. size is going forward in the former center at around 14c per square foot, while in the latter center the price wanted is 22 cents per square foot. Eight-inch tile in Boston is very close to 26 cents per square foot and in Providence it is but a cent or a fraction below 40c per square foot. This is what is helping to retard construction in many centers, while not the prime cause in the centers cited.

NORTH EAST.





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Published by T. A. Randall & Co., Indianapolis, Ind.



Written for THE CLAY-WORKER.

#### NOTES FROM DIXIE LAND.



THE MEMPHIS SECTION autumn building has been quite as good as summer activities and in some respects better, for in the summer work lagged and when planned was slow to start. The good prices for cotton and the fact that in the local Memphis territory they have a very good crop is having effect both in mercantile and building efforts. Labor is scarce, however, for the same reason. An advertisement for 1,500 hands in the cotton and manufacturing section around Blytheville, Ark., has appeared in a local paper here. Not all for the cotton field by any means. Local brick plants are running and seem to be fairly well supplied with labor.

The Moss-DeVoe Brick Co. is getting out a line of brick and Louis Moss, the manager, when seen at his office, 82 South Front street, said that the autumn trade in brick was good.

W. W. Fischer, of the Fischer Lime and Cement Co., reported a very good demand for sewer pipe, fire brick, and clay products which they carry as an extensive department of their building material trade. They carry a big line of roofing, plaster, clay products, fire brick, etc. They also have a special room on the upper floor of the new addition for the display of face brick, illustrating wall effects, also mantel and floor effects.

The Herbert-Fischer Brick Co., of which W. W. Fischer is the local head, is running its large plant in South Memphis in the manufacture of common mud brick and is getting out

brick on a big scale. During the summer extensive continuous kiln systems and latest model mechanical devices were installed.

The Memphis Brick Supply Co. in the Goodwyn Institute Building, Third and Madison avenue, report favorable autumn and winter outlook in the local territory and southward. J. J. Bishop, manager, says that building for 1922 is also very promising. Commercial and public structures are of a large and important kind and residential work, especially brick residential and apartment house contracts, are promising.

The B. Mifflin-Hood Brick Co. in the Madison Avenue Building, Mr. McDowell, manager, continues to fill many contracts at this Memphis branch for brick on Memphis stores, Warehouses, schools, churches, residences, etc., and quote a number of contracts in Mississippi and adjacent states.

R. D. Goodwyn, formerly connected for many years with the Memphis Queensware Co., will open some time about the first of the year a large queensware wholesale place on Union avenue just west of the Palace Theatre. Mr. Goodwyn went to Florida and remained some years for his health and, being much improved, will re-enter the business lists at Memphis in a big way.

By far the most interesting announcement with reference to a building undertaking here is that Brinkley Snowden and associates of Memphis will erect the tallest sky-scraper yet built in the city. It will be twenty-one stories high and is to be erected on South Court street, just west of the present Exchange sky-scraper. The exterior will be of white tile, presenting a very imposing effect.

The exhibits at the Tri-State Fair, which closed at Mem-

## YOU KNOW WHAT THEY SAY—

Speaking of a motor car or a wife they say, "It isn't so much the first cost as it is the up-keep."

Well, how about pyrometers?

For instance—

In May, 1910, the S. R. Dresser Manufacturing Company, of Bradford, Pa., spent some \$230 for

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These pyrometers have served them well for eleven years, are still in active service and apparently good for many more years.

The upkeep expense has averaged \$4.71 per year—slightly over 2 per cent on the investment.

Many of our customers have obtained equally good service. They know that

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phic October 1, touching building material and clay products lines, were most attractive, receiving the favorable comment of thousands of guests. The Improved Brick Co., of Meridian, Miss., illustrating Mr. Sanderson's product, had a neat booth as in former years. This was on the approach to the mid-way.

In the Fine Arts building was a booth in rectangular shape of the Fischer Lime and Cement Co. showing fire brick, terra cotta and clay products, plaster, lime, cement, and roofing lines. Ladies and gentlemen in charge of the booth distributed leaflets and the get up was most artistic. A sign in full view of all the booths said, "The Fischer Lime and Cement Co. furnished the roofing used on this building."

John A. Denie's Sons Co., wholesale and retail dealers in building materials, 82 South Front street, Memphis, had an attractive exhibit on the grounds. They had showings of tile, clay, sewer pipe, fire brick, lime, cement and the numerous building lines they carry.

A block of seven stores will be erected in Memphis at the northwest corner of Union and Third streets to be constructed by S. W. Overton, of Waukesha, Wis. The buildings will be of white enameled brick, stone trimmings. Chas. Deas is the architect.

DIXIE.

#### KEEP BOOSTING.

One of the foolish ideas that crops up in the public mind now and then is that brick made in old times is better than brick made today. The clay working industry itself knows better and should take a little more pains to keep the general public informed of the progress of quality in brick making and burning.

#### BUILD WITH BRICK AND YOU WILL BUILD SAFE.

Building buildings that will burn is like winking at an old maid—it not only looks foolish, but there's no telling how serious the outcome will be.

The difference between a firetrap and a beartrap is that sometimes the bear gets away. The firetrap always catches someone.

It shouldn't be necessary to force people to build firesafe buildings. Common sense proves it is the sensible thing to do.

Many men would become incensed if they were accused of flirting. Yet, every time they erect a building that is not firesafe they are flirting with disaster. The penalty they pay is included in the \$500,000,000 a year fire loss in this country.

Build earning buildings—not burning buildings.

Make every day a firesafe day.

One match can burn a whole city.

Instead of spending millions every year to fight fire why not build it out once for all with firesafe construction?

If every structure in this country were firesafe it would save every day sixty lives from fire death and \$1,000,000 worth of property.

How can we ever hope to overcome our housing shortage as long as we allow fire to destroy one-fourth of the buildings we build every year? The answer is—Build so it won't burn.

FIGHT FIRE WHEN YOU BUILD—don't leave it all to the fire department.

The surest way of preventing fire tragedies is building structures that won't burn. That should be the big lesson of Fire Prevention Week in our community.

## Doing Better With What You Have

A common sense analysis such as we will make of your plant will doubtless reveal the possibility of some very decided savings.

In any event, our brick engineers always have something interesting to say to a brickyard owner or manager, and one of them is generally on tap at a time to suit you.

Ask for letter "B-4" if you would like to do better in your yard. Better still, let us know when it would be convenient for one of our men to call—no obligation, we take all the chances.

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Mention THE CLAY-WORKER.



Written for The Clay-Worker.

### SEEN IN NEW JERSEY.



MONTH JUST closed has been a real banner month for the construction industry. Taking Newark the principal center as a guide, the increase in permits granted for contemplated work has gone well over a million.

Taking the first nine months of this year as a basis, a comparison can be made with the same period of last year. In 1920, there were 2,273 permits which totaled in estimates the sum of \$17,467,600, while for the nine-month period just closed, 21,844 permits were issued in which the estimated amounts total \$15,758,600. While there is a decrease in the estimated amounts, there is an increase of over 500 permits. The high figures shown by the year 1920, are due to the high cost of material and labor for that period.

What is true of Newark is also true of other sections, only in a way proportionate to the size of the locality. The greatest boom in all the construction lines has been along the line of residential buildings. This can be accounted for to a large degree, to the tax exemption law, and practically all prospective builders want to get in under the clause and get the benefits derived therefrom. While the law runs for five years, some feel as though they were getting a paying investment by completing their operations before the minimum of time has elapsed.

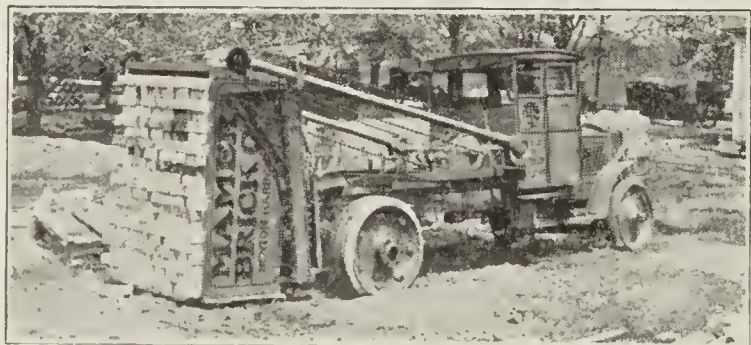
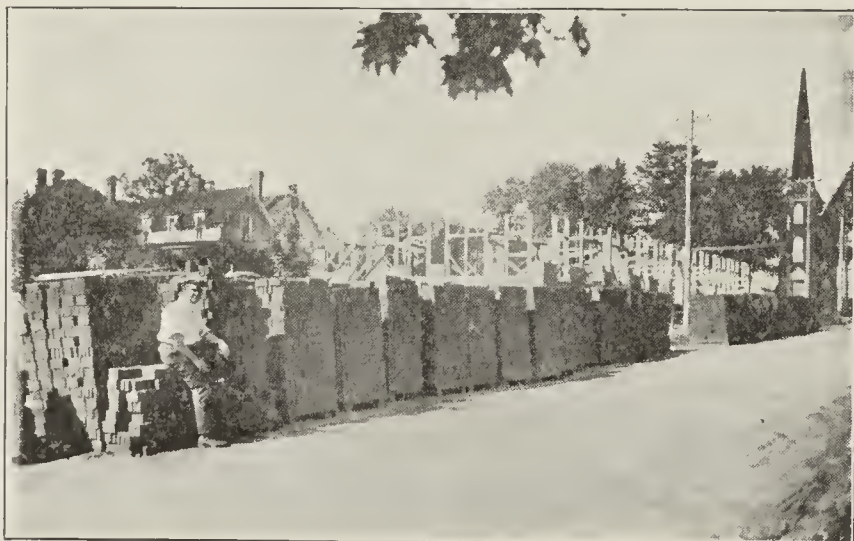
The basic material, brick, is being used in fair sized quantities in most of the larger building centers throughout the State. The producers and dealers are both in for a well divided good call. There is some difficulty being experienced in some of the centers in the northern part of the State. It has been said that dealers are going so far as to send trucks

a distance of 100 miles, with a carrying capacity of 10,000 brick, to the plants in the lower section of the State, and thus receive the material when needed. This eliminates the delay for shipping and the excessive rates for freight to make the cost greater than to cart them from the plants. For instance, one dealer sends a truck out daily for \$35 and the brick is delivered to the jobs by five o'clock in the evening. Freight rates make it more costly to ship by rail.

At the present time the Raritan plants are receiving a good demand for brick and receiving some good orders. The yards in the Hackensack River section are about finishing up with their seasonal run, though the continued warm weather is enabling them to burn more brick than they anticipated, for which there is a continued demand due to the shortage of common brick in this section of the country. The prevailing price of brick in the northern parts is still hanging around the \$20 mark with increasing amounts being received at the docks, shipped from the western parts of the State. In the Morristown center a figure close to \$23 is noted, though a variation in price has been reported. At the yards delivering to the New Jersey operations \$15 has been quoted, but the cost of trucking or shipment by rail adds on from three to six dollars a thousand, depending upon the location, or whether the brick must be carted from the receiving points. A shortage of common brick has been predicted in this section of the State, and one broker reports that he now has an inquiry for one million, and believes that he will have to go out of this territory to procure. He said he would do as he did last year, go into the northern part of Pennsylvania and New York State and pay the high freight rates, which in some cases amounted to \$9 on a ton.

In Trenton the producers want from \$15 to \$17.50 at the plant with an additional \$3 for delivery on the job, depend-

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| J. Ferry & Sons.           | Atlantic City, N. J. |
| Mamer Brick Co.            | Benton Harbor, Mich. |
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| Huntington B. & T. Co.     | Huntington, W. Va.   |

Some of these concerns are using two or three Equipments. Several have been in constant use for Two Years.

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**American Truck Body Co., Inc.**  
**Martinsville, Virginia**



ing upon the grade of brick that is sought, whether it be a first or second grade, or selected. There is not much reserve stock to be reported and some are complaining of an unsatisfactory season in some ways, but any anticipated wants can be amply cared for from what reserve there is.

The hollow tile market remains about as existed a month or so ago. The most active demand is felt for the sizes wanted in residence and apartment house construction. The prices remain about as have been quoted, with a slight tendency toward an increase.

It is reported the pottery conditions have begun to improve in the principal pottery center. Laborers seem to be easy to obtain and are now employed in fair numbers, though it has been stated that all plants are not operating upon a 100 per cent. basis, which has a tendency to show the number of orders that were received during the past few months. The general ware line reports are of increases in the number of inquiries and a number of fair sized orders having been placed.

The Thomas Maddock's Sons Company, Trenton, have resumed full time operation after being on part time for several weeks. This firm manufactures sanitary earthenware products.

In and around Passaic County there has been noted a good amount of public school and other municipal building work in progress. In the city of Paterson, one new school, built of cream face brick, has just been completed and ready for occupancy. A large school is under construction, plans are being drawn for another to cost close to \$1,000,000, to be built of red face brick.

In Clifton three schools are under construction at the present time, all of which have been built of the red tones. At

Allwood there are two schools under discussion, one of which has had some brick already delivered.

The contract for supplying the Park Ridge School was given out during the early part of October to N. H. Sloan, of Paterson, N. J., for 90,000 Bradford face brick.

As fire prevention is getting a full quota of attention of late which has been due to a day being set apart in the various municipalities for such a purpose, a few remarks regarding fires throughout the country seem to be rather timely.

Even as we are reading about fires, or suppose we are talking to someone in the office, a fire is starting every minute one reads or is talking.

We think grade crossings on a railroad are a menace, yet the number of lives lost in a year due to fires alone is 20,000.

The annual fire loss is \$3,000,000,000.

The fire loss represents an investment of six billions of dollars.

For a period of 365 days there are five school fires a day. In itself bad, as we send our children from one hazard to another.

Only ten per cent. of our schools are safe, as ninety per cent. of our scholastic buildings are classed as "death traps."

During the year 1918, 20,000 new houses were built; and there were 211,000 dwelling fires reported.

The danger of a conflagration hangs over the whole situation. Out of a survey of nearly three hundred cities in America, there is not one that the fire hazard is rated as "low."

It behooves us all to be on the guard, as the primary cause of the conflagration is carelessness. To prevent fires is your business, your neighbor's, and your neighbor's business is also yours, because a fire that starts in your neighbor's cellar may destroy your home and your city. A. L. B.

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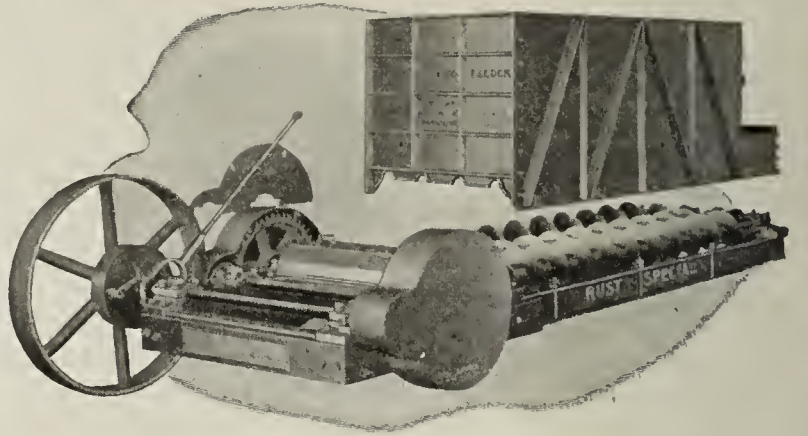




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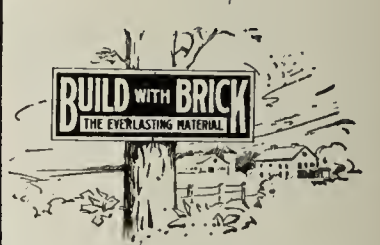
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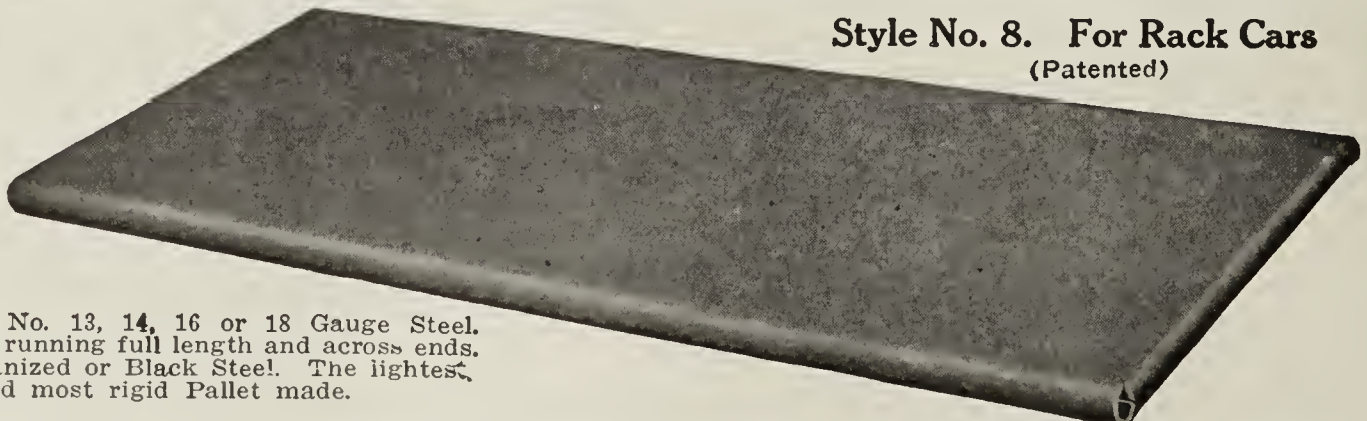
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# THE CLAY-WORKER



GREAT BRITAIN BUILDS WITH BRICK: West Front of Aston Hall,  
Birmingham, England. (See Page 437.)

Published Monthly by  
**T.A. RANDALL & CO.**  
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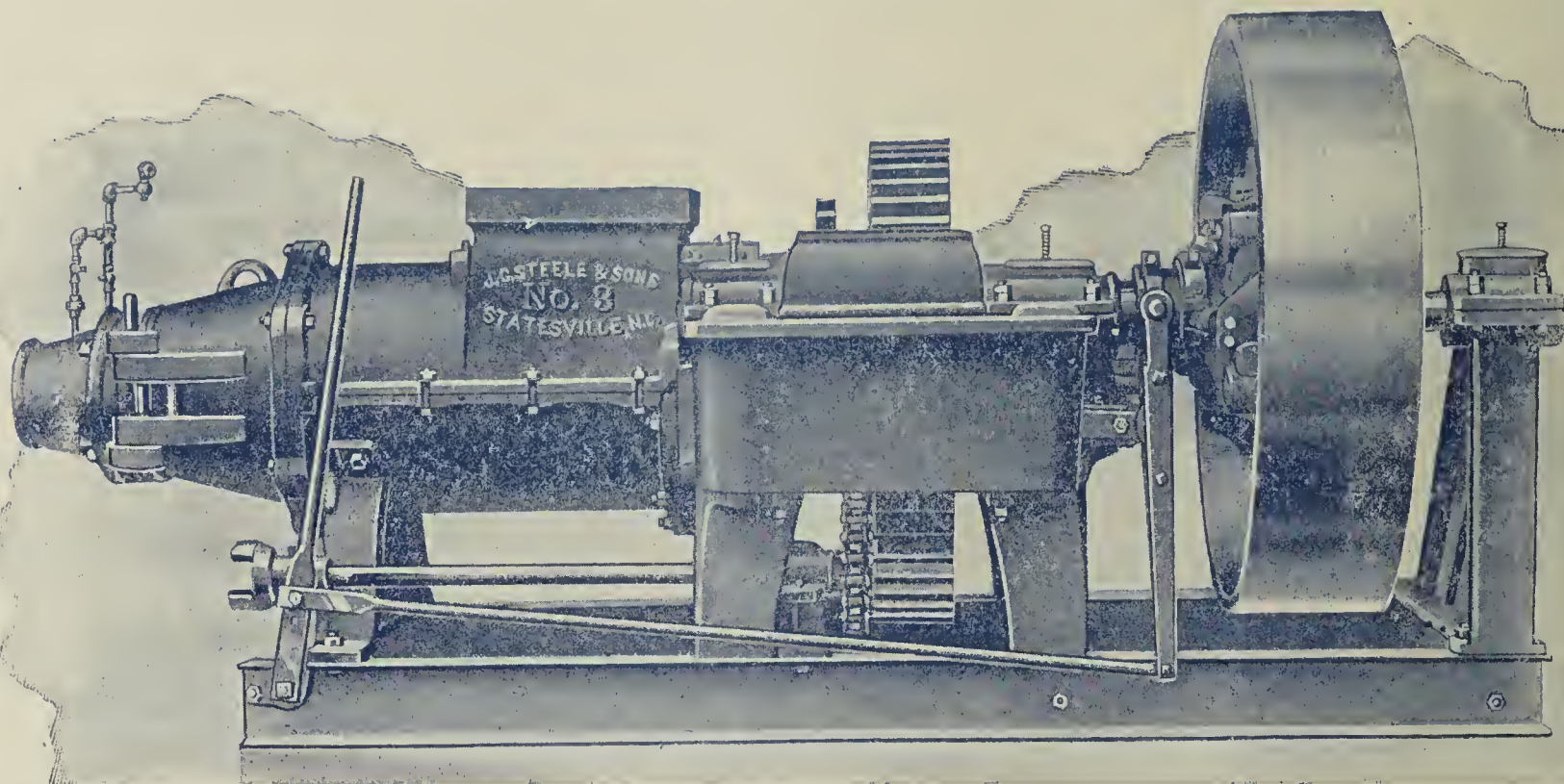
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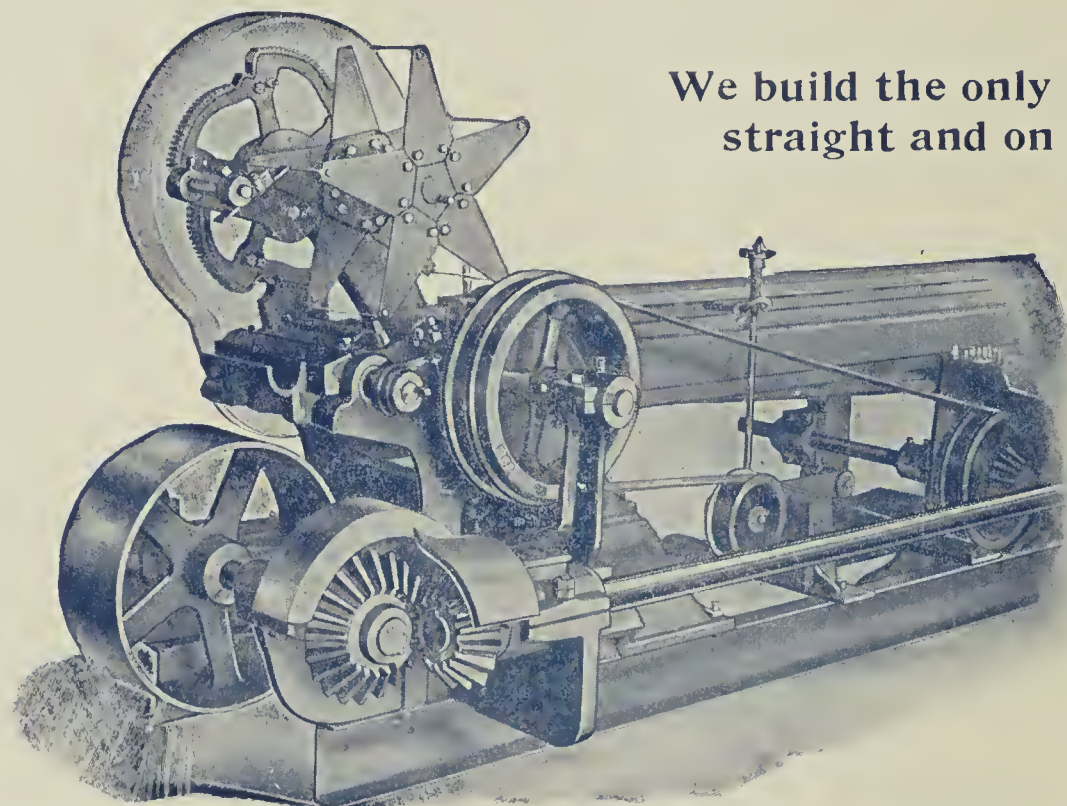


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**We build the only End Cutter that will cut straight and on edge, so far as known.**

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# THE CLAY-WORKER

THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 76

INDIANAPOLIS, NOVEMBER, 1921.

No. 5.

## GREAT BRITAIN BUILDS OF BRICK

Material Throughout England. Our English Cousins Build to Endure, so They Build with Brick.

TO THE STAY-AT-HOME American living in a lumber built town, it must be surprising how Great Britain tackled her building situation. For a number of years there has been a steadily growing shortage of houses for the middle and working classes, due largely of course to the war, in great Britain the same as in America. It is estimated there was a shortage of something like half a million houses in England alone.

Conferences were held and the subject discussed from every view point. The Government passed acts compelling every local authority to build houses for the people, and has made and is making huge grants from the treasury equal to over a dollar per week of the rent of each house. It was recognized that in the recent chaotic condition of things it was impossible to build on the old basis of an economic rent, but it was necessary that building commence and the money had to come from somewhere.

The leading daily papers held competitions, carrying substantial prizes, with a view of getting good plans for the authorities to work from, and a Government Commission did work in the same direction. The local authorities prepared their schemes and no district was too small or too unimportant to be allowed to escape its responsibilities. Schemes for some thousands of houses were approved by

the Government in an incredibly short space of time, and the work is still going on.

In each of these schemes not only was the erection of houses considered, but their arrangement and layout on the site. In the cities not more than twelve houses to the acre are permitted, while in the rural districts not more than eight were allowed in the same area, and not more than eight houses of the same design were allowed in the same row. Generally not more than four or six of the same design were allowed in close proximity to each other. In the majority of the schemes approved not more than six or eight of any design were to be built in a row.

While private builders were engaged to do the work, all of the schemes were and still are being carried out by the local authorities, with public money for the common good, with the exception of a few promoted by employers of labor working through public utility societies. These are not run for private profit. Their dividends are entirely limited by law and frequently the tenants are the principal shareholders. It was necessary of course for them to

conform to the general rules for laying out their estates. They have been among the most enlightened and progressive of such bodies.

The material for this great national house building activity



Tudor Gateway of St. James Palace, London, England.



was of course a matter of great anxiety. Lumber was scarce and expensive, metal goods were almost as bad in both respects, and the same was true of other important necessities. To overcome this the Government set up a special "Building Supply Department" with a well-known and reliable builder at the head of it, for the purpose of gathering together the huge quantities of materials required as quickly as possible and yet in a systematic manner.

Readers of *The Clay-Worker* will naturally be interested to know that notwithstanding the high price of brick and the difficulty of getting them in the quantities desired, there was no thought of substituting lumber even in the rural districts. In places where stone abounds naturally, some houses were built of stone, and this will continue to be the case. But no one ever suggested lumber or other combustible materials, for Great Britain builds to endure, so she builds of brick.

The quantities of brick required for this stupendous task were prodigious. In a very short time after its organization the Building Supply Department placed orders for over one thousand million, including five million facing brick to be specially made. To facilitate the making of these brick, the Government department has given help to nearly three hundred brick yards for the purpose of speeding up deliveries of machinery and fuel. Means of transportation were improved and men were demobilized from the army as speedily as possible to assist brick manufacturers.

During the war, between eight and nine hundred brick yards were closed. Nearly all of these resumed operations without delay and an enormous output was the result. One of the handicaps encountered was in the matter of transportation, for much of the rolling stock of the railroads was still in France, but fortunately many of the brick yards are located close to canals, and same were used to the utmost advantage. Many of the brickyards were commandeered during the war and used as storage places for explosives, the safekeeping of which was such an anxiety during the war period, and at the time the great construction program was started many of them had not been released.

In the Petersborough district, which is one of the largest brickmaking centers in the world, there are nearly one hundred continuous kilns. The output of this district was about 5,000,000 brick per week, and with the good canal connection the transportation problem was quickly disposed of.

So long as the home demand continues so great, the larger demands of France and Belgium can receive practically no attention from the British brickmakers. Manufacturers of all building materials in Great Britain are in for the time of their lives for years to come.

#### GOOD BELGIAN MARKET FOR INEXPENSIVE BRICK-MAKING MACHINERY.

INFORMATION has been received by the Department of Commerce, Washington, from its representatives in Belgium, to the effect that there is at present a good opening in that country for American brick-making machinery which does not require a heavy investment. It is stated that a large percentage of the brick now being used to rebuild the devastated portions of Belgium is made in France, and not only commands high prices, but is hard to obtain owing to the pressing need for brick for use in the French rebuilding operations.

According to the information United States manufacturers of inexpensive brick-making machinery will find ready markets in both Belgium and northern France for their products. It is pointed out, also, that there is developing a considerable demand for imported medium-grade building brick in Belgium, which is doubtless worthy of investigation on the part of our makers.

Written for *THE CLAY-WORKER*.

## THE ORIGIN OF BRICK



LOWER MESOPOTAMIA the Chaldaean used sun-dried brick, and though in some parts, where they have been exposed to the elements of the weather, only dust and shapeless fragments remain, yet in the inner and more protected parts the brick are as well preserved as they were four thousand years ago, when laid in walls and buttresses. These bricks varied in size from six inches square by two inches thick to sixteen inches square by seven inches thick. When the kiln for burning brick was introduced to the Chaldaean they greatly improved the quality of their brick, and made them a fair substitute for stone. The color was generally a yellowish tinge, sometimes a dark blue, and also a pale red.

Of their buildings little is known; of the small dwellings the foundations were a brick platform raised above the surface of the ground. The floors were of burnt brick, well laid in bitumen, bound together so firmly that at the present time it requires a heavy blow to separate them.

The burying places of the dead were mostly in brick vaults, later in earthen dishes of a huge size. The burial chambers were about seven feet long, three and one-half feet wide and five feet high. The floors and walls were of sun-dried brick, carefully laid in bitumen, and the side walls were closed in above with an arch. On the floor was placed a matting of reeds, on which the body was laid, so as to rest on the left side. The fingers of the right hand were placed upon a copper bowl, which was set in the palm of the left hand, a single brick was placed beneath the head for a pillow. Vessels containing food and drink were placed near the head of the dead. Vaults of this style, seem to have been in many instances, family tombs, the remains of several bodies being found in one chamber. They also used a burnt clay box shaped like the cover of a dish, generally about seven feet long, two and one-half feet wide on the bottom and three feet high. In the bottom of the tomb a foundation or floor was laid of brick; this is covered with mats as in the brick vaults, on these mats the body of the dead was laid, and over the body this huge burnt clay dish cover was placed so as to enclose and cover the remains. In a few instances two remains have been found under a single cover; these dish covered tombs were usually about seven to eight feet below the surface. Another coffin used, consisted of two large burnt clay vessels, shaped like an ancient water jar, set mouth to mouth and sealed with bitumen. These jars were about three feet wide, two and one-half feet deep and six feet long inside, sufficient to contain the remains of an adult. It was the custom to place these water jar coffins upon the ground side by side until the desired space was covered then cover all these coffins with earth of a small depth, another layer or course was laid upon this earth and so on until a mound was formed fifty to sixty feet in height.

Here we find the first use of burnt clay drain tile, made like the present sewer pipe; these sepulchral mounds were carefully drained and ventilated by the means of a twenty-four inch drain tile, extending from a suitable discharging place to the center of the mounds; all joints well sealed with bitumen, from this point there were six inch drain tile extending to every portion of the mound to allow ventilation and carry away all dampness. These drain tile were filled with pieces of burnt clay to prevent the entrance of any small field animal, but not restricting its intended purpose. By these means the tomb mounds have been preserved from the effects of dampness, and the contents and ground have been found as dry as dust.

These large dish covered coffins and huge stacks of drain-



age tile show the Chaldaeans have been unusually skilled. There has also been found many jars, vases, and drinking cups of burnt clay, which show these people were also skilled in the use of the potter's wheel.

The Egyptian brick are usually twice as large as our modern brick, but quite crude; the sun-baked bricks were universal in Upper and Lower Egypt, for both public and private building. Two pyramids were built of sun-dried brick at Dashur, a few miles from Cairo.

Brickmaking gave abundant work for numerous laborers throughout the country. The simple materials were found to be particularly suited to the climate, as the rapidity and cheapness with which these brick were made attracted the attention of prospective manufacturers. So great was the demand that the Egyptian government, observing the profit which could be made from a monopoly on them, undertook to supply the public at a moderate price; thus preventing all unauthorized persons from engaging in the manufacture, and more effectually to have these rulings observed, the seal of the king or some privileged person was stamped upon every

and Geneva, Switzerland, has been using this French glass for the past three years in paving its streets."

#### FIRE PREVENTION WORK.

A whole lot of people put in a whole lot of good licks in promoting interest in fire prevention during the week of October 9-15. Some did it enthusiastically from conviction that it is a good thing. Others did it simply because they were called upon to do so, and others because there is either a direct or indirect material advantage in promoting the doctrine of fire prevention.

It is an interesting fact, too, that the best work of this kind is generally done by people who benefit from it. The insurance people have done more good, practical work in the way of fire prevention and accident prevention probably than all the rest of the world put together. And while there is frankly a direct selfish interest this does not alter the fact that they have rendered splendid service in work of this kind.

It is pretty much the same way with brick and tile people,



Great Britain Builds with Brick—East Front of Aston Hall, Birmingham, England.

brick at the time of its making. It is probable that those which have no marks belonged to individuals who had obtained permission from the government to make brick for their own consumption.

The employment of numerous captives, who worked as slaves, enabled the government to sell their brick at a lower price than those who had to resort to labor only.

#### GLASS STONE.

IN OUR OFFICIAL Commerce Reports on the restoration of the French glass industry there is a suggestive paragraph touching the reclamation of old glass by making it into building material. The paragraph in question reads as follows:

"The Garchey process through fusion and pressure of fragments of bottle glass has produced a glass-stone which has been extensively used for decorating houses. This comparatively recent industry has rapidly developed and four large plants are now engaged in manufacturing the material. It has been found that the glass-stone also makes an ideal pavement,

they have a direct selfish interest in promoting fire prevention through the use of their material for building purposes. Fortunately the interest of the industry in this respect runs hand in hand with the public welfare and it is right and proper that we should carry on persistently in this work.

It is the insurance people and the people producing fire safe building material who are the logical people to lead in the good work of fire prevention, and we should keep this good work up all through the year. Not merely make a great parade of it for a day or a week. There has been plenty of evidence trotted out of wastefulness in fire loss; the job before us is to keep busy at the good work of reducing this waste through better and safer building.

#### SOMETHING WORTH THINKING ABOUT.

While the domain of Uncle Sam contains only a tenth of the population of the world the material possessions practically balance all the other nine-tenths combined. Doesn't contemplation of that give you a thrill of pride and thankfulness?



# MAKING HISTORY AND RECORDING IT.

## N. B. M. A. Conventions Make Progressive History in the Clayworking Industry Which is Made Permanent in Printed Proceedings.

THE CLAYWORKING industry has made history, progressive history, during the past 35 years, and the National Brick Manufacturers' Association has been a big factor in that progress. It has made its part of history and has recorded it with printed reports. This thought is brought to mind impressively now and then when one is visiting around among the clayworking plants and sees what is going on, how the work is being done now, and contrasts this with the older days. You can pull down at random almost any bound volume of reports of gatherings of the N. B. M. A. and find recorded therein some interesting history of the progress of clayworking as well as some valuable technical information for guidance.

Recently the writer was visiting a clayworking plant where they are using a gas producer system for the burning of brick. On returning home a volume of printed proceedings of the N. B. M. A. conventions was taken down at random. It proved to be a report of the 29th annual convention held in Detroit in 1915. Starting on page 153 therein was found a discussion of the advantages of producer gas in brick burning, by James P. Williams of St. Louis, Mo. In this paper he goes into the history of producer gas burning. He tells where it was first introduced into brick yard practice by P. L. Youngren of Milwaukee, who after repeated failures finally perfected a kiln that gave good results. There follows then a carefully prepared treatise on gas producing and gas burning with some estimates of the probable fuel economy by this process and the improvement in burning itself which may result. Plainly there is no question but what out of this discussion and studies following it there was extended to many clayworking plants throughout the country a process of producer gas kiln burning thus making one historic step in the process of brick manufacturing.

At this convention, which was held in Detroit, February 15-20, 1915, Eben Rogers of Alton, Ill., was the President who delivered the annual address, and it was characteristic of the time and the man, and reflected the questions uppermost in the industry at that time, among them being matters of legislation, subjects of cost accounting, and cooperation between members of the trade both in the matter of understanding cost and in developing new and better methods for carrying on the work of preparing and burning clay.

This was a period in the history of the industry when a keen interest was being taken in the subject of cost accounting and out of the papers and discussions presented there developed eventually newer and better knowledge of costs and a fair measure of standardization and uniformity in cost accounting.

One of the elaborate papers presented at that convention dealt specifically with the cost accounting of brick manufacturers, by J. L. Buckley, Aledo, Ill.

At this same convention there was a very elaborate paper on kiln expansion and bracing by Carl Harrop, from the Department of Ceramic Engineering of the Ohio State University, and some interesting discussion following it all of which is preserved in the record of reports of the convention and constitutes an important reference work on this subject.

The discussions following this paper centers attention upon the idea that it is good especially in laying up refractory brick to make thinner mortar joints and the history of the

industry and the practices in furnace construction show that this has been an important feature of the progress of fire brick laying, the making of very thin mortar joints, and even the laying up of fire brick with only a dipping in a batter of mortar to form the joints between them.

Another feature paper dealing with manufacturing methods at that time was one on controlling kiln temperature, by J. W. Robb of Clinton, Ind., pointing out that the temperature at which brick is fired governs largely the strength and durability of the product. Mr. Robb went into careful treatment of the subject of efforts to determine and control kiln temperature involving the use of cones, and the coming into use in the industry of pyrometers, which had first been used chiefly for the water smoking period. Then he reviewed the coming of the electric pyrometer which gave to the clayworking industry an instrument to meet its burning requirements. In this paper we have a pretty good historical record of methods of temperature control leading up to and describing the introduction and use of the modern pyrometers, and we have but to visit around among the modern clayworking plants to find that temperature measuring and temperature control in this way has become an important factor in the industry. Not only do many progressive clayworkers use pyrometers and keep a record of temperature, but even those who still do burning without recording instruments have awakened to a new realization of the importance of specific temperatures.

In the main the recorded history of that 1915 convention deals with progressive educational features of clayworking. That has been that big field of activity with the National Brick Manufacturers' Association throughout all the years of its useful activities. Now and then other features have been included, however, some features dealing with the purely commercial side, not only that of cost accounting and profit finding, but also that of promoting a wider use of brick and of exploiting brick and other structural clay products as constituting the best building material on earth.

And it so happens that at this convention one of the important features was a commercial feature, in the rounding out of the use of a slogan throughout the year which constituted the best bit of advertising and brick boosting that had been done in the history of the industry. That slogan was made up of the three words, "Build With Brick," one of the many outputs of the official organ, The Clay-Worker. There had been many posters and signs put up during the year carrying this slogan and there was a supply of souvenir slogan. Also Mr. Charles Bryan, a prominent Detroit brickman, who had charge of the inaugural smokerette, in the course of his introductory remarks on this occasion said, "The Detroit Brick Manufacturers' and Dealers' Association was organized for a purpose. And that purpose was the single idea of advertising brick as a building material with the slogan as adopted by our association, 'Build With Brick.'"

All this is just a brief peep into the official record of one N. B. M. A. convention picked up at random to see what it would show. The thing which this and every other printed report of these meetings shows plainly is that the main purpose of the National Brick Manufacturers' Association has been that of seeking light and positive knowledge of the business of clayworking to the end that the industry



may grow progressively and prosper in keeping with its importance to mankind. The commercial and accounting side has come in for a share of attention, and always will, because it, too, is an essential part of the clayworking industry. Mainly, however, attention and effort have been centered on experimental research work and on the exchanging of ideas and experiences between members of the trade and examination and study of new offerings in machinery and mechanical equipment with the goal always being that of better methods, more positive knowledge and control of steps and processes of manufacture that we may have a better product made as economically as it is practical to produce it.

Out of it all has grown incidentally a great friendship and fellowship between members of the trade. Here and there convention papers and discussions have awakened interest and led to visits to plants where interesting features were being tried out and out of it all the industry has not only gained knowledge and made progress, but it has brought the men themselves into closer and more friendly relationship and this in turn has contributed both to progress and to human happiness and well being.

We get evidence of this every month of the year. People read with keen interest what is pictured and written about in the trade papers, and glean therefrom ideas for use in their own business as well as knowledge of what others are doing. Then once a year there is a great getting together of the clans and presenting of papers followed by discussion on interesting phases of the industry which are being studied and experimented with, thus keeping up the personal touch and keeping alive the spirit of progress.

The National Brick Manufacturers' Association shows by its printed records that it has not only been an "extension school," as characterized by J. J. Koch, with wonderful educational results, but it has also been a maker of important history in the clayworking industry, and the history of progress as made and charted by the convention sessions is being preserved in the printed pages of the convention reports.

A LAY MEMBER.

#### WASHINGTON BRICK MANUFACTURERS ENTER SUIT AGAINST U. S. HOUSING CORPORATION

West Brothers Brick Company, of Washington, D. C., one of the leading manufacturers of common brick in the east, has brought suit in the District Supreme Court against the United States Housing Corporation to recover \$20,000 to cover losses sustained through the cancellation of contracts by government authorities.

The firm states that on September 16, 1918, the Housing Corporation entered into a contract with it for the purchase of 3,201,000 kiln brick to be used for the purpose of erecting buildings on various projects which the corporation then had in hand. On November 14, 1918, the Housing Corporation cancelled the order and directed the firm to cease manufacturing brick to fill the contract. In the interim a large quantity of brick had been manufactured to fill the requirements of the contract, and these were left on the hands of the manufacturers. As there was no ready market or demand for these brick the result has been that West Brothers have suffered a large loss, not only through inability to dispose of the brick, but because of the depreciation, breakage, etc. The amount of loss is stated by the firm to approximate \$20,000.

It is not competition, neither is it co-operation, but it is exploitation that is the life of trade. Sometimes either competition or co-operation may lead to exploitation, but no matter what leads to it, the fact remains that it is exploitation which enlivens trade.

## ARE YOU LISTED?

Some of the Many Benefits Accruing From Having Your Name Listed in the N. B. M. A. Annual Report.



MUST BE that many do not appreciate the advantage of having their names appear annually in an authoritative publication, classified according to official position or occupation in the clay industries, with their latest postoffice address, else there would be more "jinners" in our trade associations. To be sure, this is a minor advantage of membership in such associations, yet it is one that is worth while and should be given consideration by everyone in these industries.

The progressive man picks up information in regard to his business or occupation in various ways and does not disregard second-class mail matter and throw it into the waste basket without inspection, on the supposition that anything coming gratis from one who may have something to sell, is worthless. The fact is that while much of this stuff can be quickly disposed of, there is quite a large part of it that should be examined more carefully and some of it filed for future reference, if no immediate action is desired. If you are not listed, you will lose much of the benefit to be obtained from this source.

Do you not occasionally want the name and address of someone whom you have met or whom you have known of in some special field of work, that you might ask about a problem that you are studying? You think and search your records in vain for the name. In the same way someone may be wanting your address, but neither of you, perhaps, is listed in any publication of your industry that is available.

A short time ago, I wanted information for a client as to the location of a material. I knew a man who could give this information, but could not think of his name, though I remembered him well and knew his former address. I also knew that he had been, some twenty years before, a member of the N. B. M. A., so in a few minutes' search of membership lists in old volumes of convention reports I found the name, once so familiar. I wrote him and soon received a very interesting letter and a promise that he would look up the information I wanted, which he did. Moreover, this man who had been out of the brickmaking line for some years, was still interested in it and was planning to take it up again, so that the correspondence is likely to be of benefit to both of us. This is only one of a number of instances where the membership list of the N. B. M. A. has been of value to me. I am sure it would be of value to you also. Are you listed?

We often have inquiry for men for commanding or technical positions in clayworking plants. We may have in mind a certain man that we think would fill the bill, but cannot think of his name or address. We look over the latest membership lists of the N. B. M. A. and the A. C. S. and are sometimes able to find the name and sometimes not. Also, we quite frequently have an inquiry from a man wanting a position or from someone inquiring about a certain man. We immediately look for his name, as above. If we find that he is not a member of either of these organizations, we feel doubtful of his progressiveness.

So, knowing the benefit that I have received from many years of constant membership in the N. B. M. A. since its second annual meeting in Chicago in 1887, and believing that many others would receive the same benefit, I am writing to urge every owner or officer of a brick manufacturing company of any kind, every technical man in the industry, every superintendent or burner, in fact every employe of a brick company who is ambitious to advance, to acquire a better and wider knowledge of the art of brickmaking, to join the National Brick Manufacturers' Association. I am giving here only the advantage of having your name listed in our official



organ and in the annual report of our transactions. In following issues during this pre-convention time I propose to give weightier reasons for your joining the N. B. M. A. My advice today, "get listed," should appeal to all. The cost is small and would be less if all, or even a majority of those who should be members would join and keep up the annual dues.

W. D. RICHARDSON.

## PLANT OF THE SOUTHERN BRICK AND TILE COMPANY

ONE OF THE OLD established industries of Louisville is a clayworking plant which was started in a small way thirty-three years ago by T. Bishop and Henry Kleymeyer of Henderson, Ky., with Mr. Bishop the active man in charge of operations. The original plant was a small brick and tile plant located on about thirty acres of ground near what is now Buechel, some eight miles east of the heart of the city of Louisville. This plant has continued through thirty-three years of service, and in addition to the original small plant which is now used for making drain tile exclusively and has a capacity of 12,000 four-inch tile per

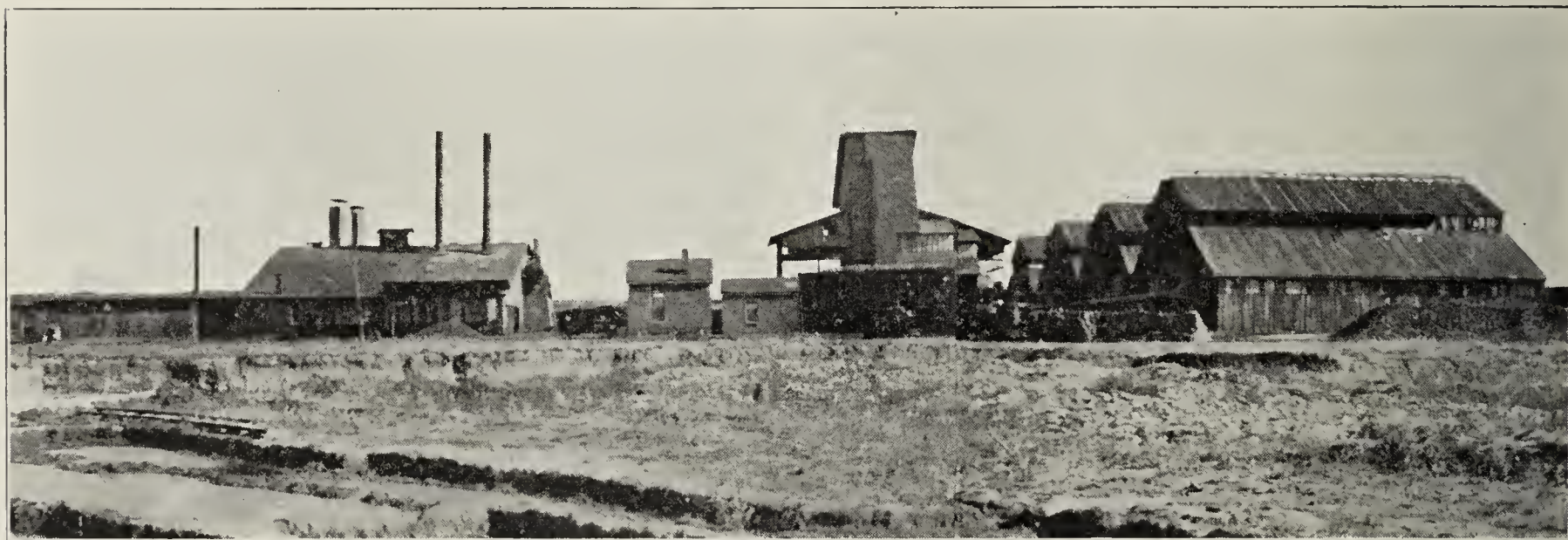
T. Bishop, who is recognized as one of the best authorities in the country on the details of tile drainage.

In addition to making the tile and taking contracts and putting it in the ground during the winter and spring months, the company has a capacity for turning out 35,000 well burned soft mud brick a day. The brick ranges in color from a light red to a dark blue or chocolate and furnishes a splendid colonial face product that has long been a standard in the Louisville territory.

The company maintains a brick fireproof office and distributing yard at Thirteenth and Ormsby, which is the headquarters for T. Bishop, General Manager, and H. Herpel, his assistant. They also make delivery from the plant by truck into Louisville. In fact, since the development of motor truck delivery, they have steadily increased the percentage of truck transportation and delivery until at the present time most of their local business is being handled by trucks. They are located on the Southern Railway with a switch and loading dock running conveniently across the back end of their kilns, so they have unusually good facilities for shipping.

### Brick Plant Equipment.

The brick plant, which has a capacity of 35,000 soft mud brick per day, is equipped with four rectangular updraft kilns



Panoramic View of the Brick Plant of Southern Brick & Tile Co., Henderson Ky.

day, they now have a producer-gas soft-mud brick plant with a daily capacity of 35,000, and have extended their land holdings in proportion, the land property surrounding the plant now being about 110 acres.

The personnel of the plant today is made up as follows: President, Henry Kleymeyer, Henderson; Vice-President, Henry C. Kleymeyer, Evansville; Secretary-Treasurer, T. Bishop, Louisville; Assistant Secretary, H. Herpel, Louisville. The Superintendent of the plant is J. A. Bishop, and the bookkeeper in charge of the plant office is John L. Brietenstien.

### The Workers and Their Product.

The plant employs an average of about forty-five men, a few of whom own their own homes, but most of them being housed on the property by the company and given pretty steady employment all the year round. The tile plant is operated only in the summer time, but the brick plant is operated all the year round when occasion requires. During the winter months the crew which operates the tile plant in summer is given employment in putting in drain tile, or at the brick plant. The practice of this company in regard to drain tile is to take contracts and put the tile in the ground. This work is carried on under the supervision of

of 400,000 capacity each. The machine equipment for preparing and drying the brick consists of the following: In the power plant are two 100 horse power boilers and a 125 horse power Atlas engine to drive the brick machinery, which consists of a Potts soft mud machine, disintegrator and granulator, a Wellington pug mill, and also a Wellington mold sander.

One of the side features of the brick plant equipment is a little feed mill used for grinding their sand to free it from lumps. The sand used is of the kind known as molders' sand, which comes from a sand pit in what is known as the Fort Hill Section near by. And after it is dried it shows some lumps and coarse parts and these tailings from the screen are fed into the feed mill thus reducing them so that they can use their sand up clean and over and over. Mr. J. A. Bishop, who conceived the idea of doing it, figures that this little grinding mill, which cost about \$30 and has an upkeep cost of practically that amount for replacement of plates each year, effects a saving of about \$1.75 a day and is therefore a good investment, since it requires but little power.

The brick from the soft mud machine goes into rack cars of the Cleveland Car Co., then into a Baran clay dryer where they are using steam coils for heating and have



heretofore used natural draft through stacks but are now experimenting with exhaust fans with a view to improving it. The time required in the dryer is about seventy-two hours. Then from the dryer the cars go out into transfer tracks, thence to the kilns for setting. There they are set forty-three high in the same manner as for hand firing in updraft kilns.

The burning is all done with producer gas with a maximum temperature of about 1,800 F. The water smoking takes about two days where formerly it required four days: Then there is a temperature raising period of three days where formerly it took from four to five, and a burning and settling for three days where formerly it was from four to five, making a total time in the kiln of only eight days whereas formerly the

minimum as well as reduces the quantity of coal consumption to 800 pounds per thousand brick.

#### The Tile Plant.

The tile plant, which was the original plant of the Southern Brick & Tile Co., founded thirty-three years ago by T. Bishop and Henry Kleymeyer, Sr., has an equipment consisting of 90 horse power boiler and 45 horse power engine. There is an Adrian brick and tile machine, with a capacity of 12,000 four-inch tile per day, which has been in use thirty-three years and on which it is said the actual repairs aside from new augers will not exceed \$100 for the whole period. That is some record for a tile machine which has been kept fairly busy through a long period of thirty-three years.



Clay Pit of the Tile Plant of Southern Brick & Tile Co.



Garnering Clay for Brick Plant, J. A. Bishop at Left.



Gas Producer and Coal Elevator.



A 22 Year Old Kiln and Its Younger Brother.

kiln time was twelve to fifteen days.

An interesting feature of the plant, which many have come to look over and to study, is the gas producer which is from the Manufacturers' Equipment Co., Dayton, Ohio, and in which they use a Harlan gas coal of egg size, and with which they are able to reduce the burning to an average of 800 pounds per thousand brick. The gas producer equipment includes a coal elevator with a pit under railway siding so that with bottom dump cars coal can be dumped right into the pit and is handled by machinery into hoppers which have shoveling chutes and sliding gate doors at a comfortable height for a man to stand and feed the coal into the firing holes of the producer. It reduces the labor element of the firing to a

The tile is burned in two downdraft kilns, one twenty-four feet in diameter and one thirty-two. The 24-foot kiln has been in use twenty-two years with an average of fifteen burns per season and is in good shape today. It looks like it might stand another twenty-two years of service. The larger kiln, which is now six years old, is thirty-two feet in diameter.

The tile is burned at a temperature of about 1,750 F., is water smoked for about twelve hours, and the burning runs through a period of about forty-six hours.

#### Raw Material.

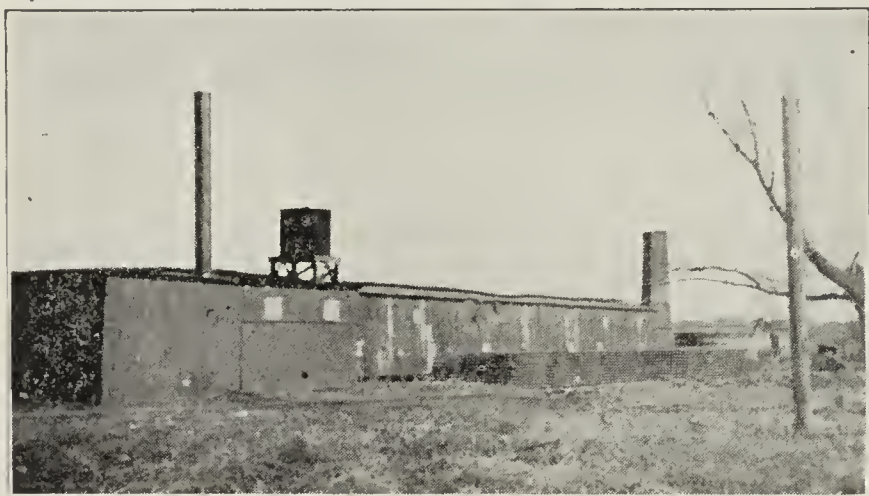
Present holdings of the Southern Brick & Tile Co. include about 110 acres of ground from which they get raw material



for their brick and tile. The raw material is a surface clay, that used in the tile plant being a low ground blue clay which is soft and easy to work and burns to a standard red. The method of burning is to spade the clay from the bank, then temper it in the open by water soaking it over night, after which it goes directly into the tile machine without requiring any disintegration or special pugging. There is no gravel in the clay and its characteristics are such that it works nicely with this simple and easy treatment.

The surface clay used as a raw material for brick plant differs somewhat in character, running more to yellow and red, getting its coloring evidently from a sprinkling of hematite iron which manifests itself in the form of iron specks in the brick, and under high temperature which melts the iron, brings out the chocolate coloring that adds materially to the range of colors they are able to produce. This brick clay is worked to a depth of from six to eight feet from the surface, and it too is remarkably free from gravel. It has an under bedding of limestone and occasionally they get down into the stone underbedding, to avoid which they limit the depth of operations to about six or seven feet.

During the many years of operations they have naturally uncovered considerable ground surface and an interesting feature of the plant is the reclamation of the old workings by developing soil on them. This is done by tillage and planting of such crops as rye and stock peas. So instead of having



Original Plant of Southern Brick & Tile Co., in Service Thirty-three Years.

left a waste of bare, worthless land they are turning this worked-over territory into nice tillable land that will have a farm value instead of standing as a traditional waste spot of the potters' field.

#### POPULATION CHARTS.

THE BUREAU of the Census has compiled figures showing the population of the United States in relation to land area and has made map charts showing the relative density of the country by states and counties.

Figures show that we have now 35.5 people per square mile in the United States, which is one for each 18 acres of land, or counting families in five there will be 90 acres of land to each family. Three states, Rhode Island, Massachusetts and New Jersey, are approaching the crowded condition of England, Belgium and Holland with the population running over 400 to the square mile.

As might be expected, that part of the United States east of the Mississippi river, with the exception of Florida on the south and northeast section corner around Maine, is pretty thickly populated and Missouri on the west side of the river gets into the thickly populated section to make up for a lack of population in Florida and Maine.

The mountain states in west country have an average of

less than four persons per square mile, but the population increases in the west coast country, California and Oregon showing a population ranging from 18 to 45 per square mile, with Oregon showing a population ranging from 6 to 18.

Written for THE CLAY-WORKER.

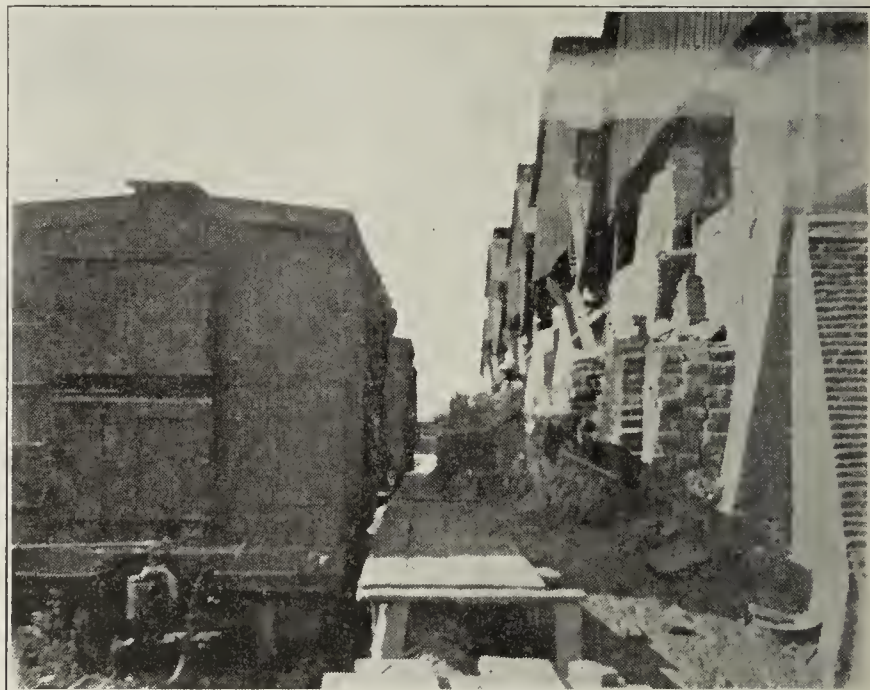
#### THE CHICAGO SITUATION.



W HILE THE YEAR 1921 will show probably approximately a 400 per cent increase in number of buildings over those erected in the preceding year it now looks as though it will be 1922 before the long-pent-up demand for more dwellings in Chicago really breaks over or through the obstacle of excessive costs to revive Chicago's somewhat shrivelled building industries.

Of the triple retaining walls which have been holding supply from flowing out to meet demand—high cost of materials, loans and labor, labor has been the last to yield, and still is striving in Chicago to cling to old levels, as related in the last issue, but at this writing signs of change are more hopeful than they have been at any time heretofore.

Certain contractors have been manifesting indications of



Loading Dock at Rear of Battery of Four Kilns.

a desire to back up, if not actually to encourage, certain unions in their reactionary defiance of the new wage schedules worked out by Judge Landis, and this undoubtedly put the brakes on the readjustment which was confidently looked for many weeks ago. Now, however, a citizens' movement has been launched by the Chicago Association of Commerce, and a definite program has been formulated which, it is believed, will spell trouble with a capital "T" for contractors and labor unions alike who continue to defy the Landis working agreements.

A committee of 160 representative citizens named by the Chicago Association of Commerce met on the 10th of this month and unanimously voted full support for all unions and builders who abide by the Landis award, but an organized effort to create open shop conditions in all crafts which persist in holding out. At the same time contractors who continue to defy the Landis award will be made to feel the force of organized disapproval in their home community. The members of this committee have made up their minds that Chicago's building industry has got to be "cleaned up" and that quickly, and working together they will be able to exert



enough pressure to make exceedingly painful and difficult the position of either contractors or labor unions or leaders who are so unwise as to continue in their old and evil ways.

The definite platform announced by the committee is as follows:

1. Those employers who continue their operations under the terms and conditions of the Landis award will be encouraged and, when necessary, protected in their operations.

2. Those unions which accept the terms and conditions of the Landis award, both in spirit and in fact, will be supported.

3. The sale and use of material going into building operations shall be free from arbitrary restrictions.

4. Contractors who refuse to operate under the Landis award deserve neither the encouragement nor the support of the public.

5. In those trades where the unions do not accept the terms and conditions of the Landis award, work shall continue by workmen who are willing to work, regardless of their union affiliations. These men will be protected and these trades will be permanently established on the basis of the open shop.

To carry out the foregoing principles the committee is to be permanently organized as an association or corporation not for profit. Thomas E. Donnelley, John H. Hardin, Joseph R. Noel (president of the Chicago Association of Commerce), John W. O'Leary, Charles Piez and John T. Pirie, have been named as an executive committee both to perfect the organization and also to take such steps as they may deem necessary to consummate the enforcement of the Landis award.

The closing paragraph of the resolution adopted by the whole committee is significant. It reads:

"We urge all individuals, firms, corporations, and other organizations of this country, whether they be workers, contractors, leaders, architects, dealers, or owners, as well as other citizens to co-operate to their utmost ability in efforts to enforce the provisions of the Landis award."

The committee of 160 includes among its members prominent representatives of all lines of business and manufacturing, bankers, architects, engineers—in fact practically all of the elements that put up the big construction projects, except the actual builders and the labor group. The two leading organizations of building contractors are understood to have signed agreements to co-operate fully with the movement, while the Chicago Building Trades Council, headed by President Kearney, has by public official announcement of intention and also by activity evidenced its desire to abide by the Landis award.

Therefore, except for the few labor unions and the few speculative builders and independent contractors who thus far have refused to recognize the binding force and necessity of the Landis award, the chief elements essential to resumption of normal building appear to be in potential harmony and waiting only the public backing which will be supplied by the citizens' committee, to begin to function as they should.

Discussing the possible necessity of bringing men in from outside to establish open-shop conditions in cases where certain unions may persist in violating the award, a close observer remarked the other day: "Anyone who thinks that the men so brought in and their employers cannot be adequately protected, ought to know that there are already about 1,000 'outside' carpenters already working in Chicago, while some 2,000 laborers are doing work, which, under the old and oppressive union regulations could be performed by none except carpenters. Moral suasion, of course, will be one weapon and the aroused sentiment of the home-building and

rent-paying public will be a great power in the hand of the committee. But they will have many resources in addition."

Some of the unions which are abiding by the Landis award, have filed briefs with the Judge asking for a readjustment. A date for further hearing undoubtedly will be set, and Judge Landis who has been most conscientious in the whole matter will of course listen to their arguments and weigh them. It is difficult for an outsider to see, however, how he can substantially alter the terms of the award, although, naturally there will be a general tendency to generosity in conceding all legitimate points which can be raised by those who have demonstrated good faith with the public by "going along."

The new home of the Federal Reserve Bank, Seventh District headquarters, at the northwest corner of LaSalle street and Jackson boulevard, is now well on toward completion. It will be one of the handsome structures of the banking district.

An old Chicago landmark, the old Grand Pacific Hotel, is rapidly being pulled down by the wreckers to make way for the new skyscraper which is to house the merger of the Illinois Trust and Savings Bank, the Corn Exchange National Bank and the Merchants' Loan and Trust Company, at the northwest corner of South Clark street and Jackson boulevard. This will be the third largest bank in Chicago.

One of the larger outlying projects which will await more reasonable building costs, but which is definitely planned, is the new eight-story building which is to house the Washington Park National Bank, now located at the northeast corner of Evans avenue and East Sixty-third street. The new building, the upper stories of which will be devoted to offices will be located on the present site of the Woodlawn Cafe, one of the well-known cabarets of the city. The structure is expected to cost in the neighborhood of \$500,000 and with the exception of the Illinois Central office building a mile to the east, will be the tallest building in that part of the city.

SCRIP.

#### HIGH NOTCHES IN ELECTRICITY.

THERE HAS BEEN recent wide publicity given to some experiments in high voltage electric current, the voltage being carried up to a million in experiments conducted by the General Electric Co., at Pittsfield, Mass. These experiments seem to demonstrate that it is practical to convey electricity at a voltage as high as a million and it is thought that this will have a revolutionary effect upon the transmission of electric current by increasing materially the range of distance over which it may be distributed for power and other purposes. This successful result is the accumulation of thirty years of experimentation in raising the voltage of electric current and it is said that the General Electric Company spent practically a million dollars preparing for and conducting the experiment. It is felt, however, that it is money well spent because it opens the way to bigger things in the way of centralizing power plants and distributing electric current over long distances for industrial purposes.

#### BRICK PLANT EMPLOYEE AWARDED DAMAGES.

The St. Louis Court of Appeals has affirmed the decision of the Audrain County Circuit Court in the damage suit of Everett Jeffries against the Walsh Fire Clay Products Company, in which he was awarded \$6,000. Jeffries was employed at the Vandalia plant of the company and was caught in a cage while thus employed and severely injured. He alleged negligence. The case was tried in the Audrain county circuit court at Mexico at the December term, 1918, and was immediately appealed to the appellate court at St. Louis, where it had been pending until the affirmation decision this week.



U. S. BUREAU OF PUBLIC ROADS OBJECTS TO DISCRIMINATION AGAINST BRICK IN NEW ROAD-MAKING PROGRAM.

Alfred T. Marks.

IN VIEW OF THE possibility on the part of many of the states to discriminate against the use of one particular kind or type of road building, in carrying out the plan of co-operation embraced in the new act of Congress, the United States Bureau of Public Roads, Department of Agriculture, has issued a statement stressing the necessity for careful attention to this phase of the subject.

It has been a matter of some comment, both in the government branches having to do with the subject as well as in Congress, that the advocates of the use of concrete, cement and similar materials are most active in proclaiming the merits of their respective road-making materials, while the friends of the brick highway, and they are legion, are but little heard from.

Whatever may be the reason for this, the Bureau of Public Roads evidently does not purpose recognizing the propaganda of the advocates of concrete and other like materials, and in order that these efforts shall be headed off has taken a stand in favor of brick being used in every case where the circumstances and conditions indicate that they are to be preferred.

Talking with Thomas H. McDonald, chief of the bureau, the writer was told that the government is to see that "no favorites are played" in the use of the road-building materials. He deplores the tendency that is now developing in many of the states to pass legislation specifying one kind of material to be used in highway construction. Such a course, he says, is unfortunate and costly. Mr. MacDonald urges open competition for all materials and more careful considering of costs and local conditions affecting construction before the kind or even the type of construction of the kinds of materials for the pavement is determined upon.

"Granting that the preparation of the road-bed has been properly done," said Mr. MacDonald, "many kinds of road surfaces will give excellent service. The element of time is important. There are so many miles of roads to be constructed and their cost will be so enormous that the most careful and detailed study of each road project must be made to provide, at the lowest possible cost, roads which will give satisfactory service and which can be maintained without undue depreciation under the traffic which is to use them. Many times the question has been asked me: 'What kind of road is best?' The answer is always the same. There is not one best kind or type of road surface.

"It is the policy of this bureau to consider the conditions on each individual federal aid project, as there are elements such as sub-grade, drainage, and present and prospective traffic, which vitally affect the determination of the standards of construction to be used.

"That is, there must be a careful analysis both of the engineering and economic conditions for each particular case in order to determine the kinds of materials that can be used successfully, and after these facts are determined then the various types of construction which can be used should be brought into competition to secure the best possible results. There have been occasional attempts to write into state laws a requirement as to the type or kind of roads to be constructed. To follow such a course would be most unfortunate. The cost must always be considered in determining the types or kind of road surfaces which are selected, and the allowable cost must be determined by the traffic which is to be borne. Local conditions vary to such an extent that very

careful consideration must be given each project before determining the character or type of road to be built.

"Types or kinds of highways should not be specified by law. This is a matter to be decided by the state highway department, in which should be lodged full authority both to construct and to maintain. Competition between different kinds as well as types of the same kind of material should be maintained and selection made to fit traffic requirements in each case. The bureau does not recommend any one type to the exclusion of others."

Following out the idea expressed by Mr. MacDonald, the Bureau of Public Roads has decided to break up or demolish a section of roadway 2½ miles long, and to make what is probably the most extensive study of road service and road materials ever undertaken in the United States. This road is located in Illinois, near Springfield, and parallels the Wabash Railroad. The grades in the road vary from zero to four-tenths of one per cent, with an average grade of one-tenth of one per cent, the maximum and minimum grades extending over very short distances.

There are seven general types of paving in the road, the idea being to have represented the chief materials used in road-making, so that engineers may study the effect of known and measured traffic of varying degree upon each kind of material. The seven types are:

Three and four-inch lug brick constructed monolithic and with a Portland cement concrete base.

Three and four-inch lug brick constructed semi-monolithic and with a Portland cement concrete base.

Three and four-inch bituminous filled lug and lugless brick on Portland cement concrete base.

Three and four-inch bituminous filled lug and lugless brick on macadam base.

Asphaltic concrete with and without binder course on Portland cement concrete base.

Asphaltic concrete with and without binder course on macadam base.

Portland cement concrete.

The road, known as the "Bates experimental road," was constructed by the division of highways, Illinois Department of Public Works, in co-operation with the U. S. Bureau of Public Roads. Actual work was begun on the road in June, 1920, and it was finished some time ago. Since its completion the state and federal government engineers, by numerous daily observations, have been measuring the effect of heat, cold, moisture, and other elements upon its surface. These observations were taken on 63 sections, and much information has been obtained which will be valuable in building roads in the future.

It is planned to subject the highway to a rigidly controlled truck traffic. The trucks are to be weighed, and the weights will be gradually increased from a light load to one 50 per cent greater than that allowed by Illinois law. The number and weights of loads required to produce failure in the various sections will index the behavior of the various types of paving when subjected to different kinds of traffic.

This information is of the utmost value. Knowing the conditions of traffic which are to be met, it will afford a means by which a proper paving can be selected to meet those conditions. Why some types of pavement bear up and others fail will be largely determined by the test. Why a roadway cracks also is being studied. At different times each section is observed and all cracks noted.

The traffic test of the road will be accomplished by means of a battery of ten motor trucks driven by trained operators.



The loading of the trucks will be increased after each 1,000 trips.

When the tests are completed, which is expected to be early in the spring, the road will be wrecked by the test and the department highway engineers will be in possession of information which will result in more scientific road-building and the saving of many times the cost of the road destroyed.

#### MISSOURI BRICK COMPANY REORGANIZED.

The Edwards Brick Company, of Columbia, Mo., will be reorganized at once with a capitalization of \$50,000 and sale of the additional stock to bring this about has been authorized by the board of directors of the company. Announcement has been made that the plant will be developed until it will be capable of manufacturing any kind of product in which fire clay figures.

The new company has engaged the services of S. E. Cullom, of St. Louis, who is reputed to be one of the best ceramic engineers in the United States and who already has subscribed for \$5,000 worth of stock in the reorganized company. According to Mr. Cullom, the Edwards Brick Company has the best natural location from the standpoint of raw material of any similar plant in the United States. He says that the clay mined on the Edwards' property is as good as any in the country. In addition to the clay the company can mine enough coal on its property to satisfy all of its wants in the manufacturing line.

The reorganized company will install new machinery of such character that the plant can make any building product made from fire clay, making it unnecessary for any Columbia contractor to send out of the city for building material.

#### NAME SELECTED IN LANCASTER IRON WORKS BRICK MACHINE CONTEST.

##### Ohio Brick Man the Winner.

A FIFTY DOLLAR PRIZE recently offered by the Brick Machinery Department of the Lancaster Iron Works, Inc., has been awarded to Mr. George S. Davies, of Cleveland, Ohio. The name "Auto Brik" suggested by Mr. Davies (who is connected with the Dover Fire Brick Company), in a distinctive style of lettering will be prominently used in all future advertising matter, featuring the automatic brick machine, which is now known throughout the brick industry as the "Arnold-Creager S. S. S. Special Automatic Brick Machine."

Officials of the company were greatly gratified at the interest shown and the number and quality of the names received from all parts of the country. An interesting after development of the name selection lies in the fact that since the contest judges have reached their decision, the name Auto Brik has been suggested by several men who were not aware that such a contest had ever been held.

Mr. James P. Martin, manager of the Lancaster Iron Works Machinery Department, informs us of the intention of the company to take an even more aggressive attitude in aiding advancement throughout the entire brick industry.

Constructive articles and booklets will be issued, from time to time, and plans are under way for a kind of co-operation which will bring to this time-proven building material an even greater prominence.

The insurance people carrying lumber risks are interested in the "burning question" and are seeking to reduce the danger of fire. We suggest as one good remedy that they recommend the building of lumber sheds and warehouses of brick.

Written for THE CLAY-WORKER.

#### PRICE OF BUILDING IN PHILADELPHIA.



PROBLEM now before the builders of Philadelphia is to find a way in which to build small houses at a price which people can afford to pay, when it is taken into consideration that most incomes have shrunk materially since the close of the war, or rather, since the collapse of prices in 1920.

This statement is made by Daniel Crawford, Jr., president of the Philadelphia Operative Builders' Association. He adds:

"The present situation with regard to the housing conditions in this city is rather unique, owing largely to the fact that the public has been misled into the thought—or rather hope—that it will be able to obtain housing accommodations at pre-war prices. This is not possible under the changed economic conditions of the city and the country.

"If it be admitted that labor must be paid an increase of 80 per cent over the pre-war prices in order to meet living expenses, then it follows as a matter of course that the cost of building construction must be relatively higher.

"Before the war we could produce a house in Philadelphia for \$4,000 which would cost \$5,000 in New York, this difference being due to the unusual labor conditions here. Today that same house would cost \$10,000 to build in New York and also \$10,000 here, so that while the increase in New York has been \$5,000, the increase here has been \$6,000.

"This is borne out by actual estimates which many of the builders have compiled within the last three months. They found that a house which formerly cost \$2,000 to build now costs \$4,500, and houses which then cost \$3,000 now cost \$6,600, while the cost of a former \$4,000 house is now \$9,000. This does not take into account the cost of the land, the overhead or the financial items; it merely covers the actual cost of construction. While these items have not increased so largely as the construction costs, still they, too, have gone up appreciably. Taken all together, the sum total of the cost of building a house today is fully double the old figures.

"While the cost of labor and materials has had this enormous advance, the cost of the utilities has more than kept pace with them. Thus, the cost of water and sewerage installation and of paving is now three times what it was in 1914.

"There is one ray of light in the present situation for those who hope for lower house prices, and that is the fact that the cost of the ground has not increased so largely as the other factors which enter into building construction. For this reason it is possible to build a house today to sell at an average of about double the 1914 cost, although the prices of the other elements show an average increase of about 120 per cent.

"The normal demand of Philadelphia for new houses to take care of the growth of the city is about 6,000 houses a year. Before the war, for a period of about five years, we were producing 7,500 new houses annually—more than sufficient to take care of the increase in population and with a few to spare. This year we will not get more than 1,500, and the number produced in the years since the war has generally been far below that figure."

#### LOWER FREIGHT RATES NEEDED.

A sharp reduction in freight rates will help in producing more business for the clayworkers, but those who will really profit from it most are the home builders who have to ship brick, as it will help reduce the cost of building and thus encourage this good work to go forward.





### REFRACTORY FEATURES.

AT THE SEMI-ANNUAL meeting of the Refractories Manufacturers' Association at Cleveland in September, John D. Ramsay of the Elk Fire Brick Co., St. Mary's, Pa., touched upon several interesting features of the trade in his semi-annual address as President.

One of these had to do with the Refractories Accountants' Institute which had held three meetings during the year and though getting under way slowly has been making interesting progress. Mr. Ramsay expressed the conviction in this respect that the lack of good cost systems and good accounting methods is one of the great obstacles in the road to great progress and one of the pressing needs of the day is more real up-to-date accounting in the refractories industries.

Another feature touched upon is that of the work of the Classification Engineer who he said has done very fine work and can do more and better work if the members will come forward with suggestions and criticisms. This classification work he thinks is the greatest ever undertaken by the association, since its sole aim is to see that each class and special shape is properly charged with its proportion or part of the cost of manufacture. On this point President Ramsay said:

"Each of us owes this to our customers, even more than we owe to ourselves. Each district should put its collective shoulder to the wheel in this matter and help Mr. McKinley, and each individual producer should give the matter serious thought in order that Mr. McKinley may have the benefit of the best advice. I know he fully realizes that, even under the best conditions, it is a difficult problem to classify thousands and thousands of difficult shapes and allocate them properly with relation to cost of production. If each member of this Association will devote one-tenth as much time to this work as Mr. McKinley has given it, he will be doing his part to hasten the day when we will have reports that will be of much service to the industry at large.

"According to my way of thinking, Mr. McKinley has put 'class' into classification, and the next move is up to us as individuals and as districts. Let us quit playing 'tweedle-dee and tweedle-dum' with this matter and get right down to a study of it."

Touching the subject of cooperative work with the American Society for Testing Materials in his semi-annual address, President Ramsay said:

"The adoption by the American Society for Testing Materials of the Proposed Tentative Definitions for Fire Clay Refractories and the subsequent approval of these Definitions by the Refractories Manufacturers' Association form the first definite step toward the elimination of the objectionable de-

scriptions previously given fire clay brick. In the past, we have spoken of 'number twos,' when in practically every other industry, a 'number two' meant a 'second' or rather, imperfect workmanship. With the establishment of such terms as 'high heat duty brick' and 'intermediate heat duty brick,' together with definite tests connected with the terms in question, we have eliminated much of the misapprehension, misunderstanding and perhaps misrepresentation which characterized the service of our product in former years."

He wound up his address with a plea for those in the industry to strive with all their energy to find employment for those depending upon the industry for a livelihood and to seek to keep the wheels of industry moving by fair and aggressive salesmanship that will yield a fair profit and insure fair wages.

### BRANDING PRODUCTS FOR CANADA.

CANADA HAS a tariff law which among other things specifies that all manufactured products imported into Canada of foreign make must be branded with the name of the country in which manufactured. This provision is making trouble perhaps where it was never thought there would be, or intended to give trouble. Illustrative of this a committee of the Refractories Association, of which Frederick W. Donahoe, Pittsburg, is secretary, is earnestly striving to get an exception made in case of fire brick. They are asking members of the association to write letters of advice containing suggestions as to possible ways of attaining the end, of getting fire brick exempted in this provision, to Mr. J. J. Brooks, Jr., Farmers Bank Building, Pittsburgh, Pa.

This same provision, unless special exemption is made, might cause trouble in many other clay products, including face brick and hollow tile, and it is a matter calling for prompt attention and action. Most every manufacturer producing products in the United States will be glad enough to have these products bear the label or the statement that they are made in the United States, but in many cases it is not practical to do this labeling except at considerable expense which will add to the burden of cost for the consumer.

### OUTING PROVIDED FIRE BRICK PLANT EMPLOYEES.

A. P. Green, president of the A. P. Green Fire Brick Company, Mexico, Mo., adopted a novel method for giving his employes an outing recently by taking them to Columbia to witness the football game between the Missouri University Tigers and Ames of Iowa. About fifty employes and their families were included in the party and they were accompanied by Mr. Green and his three children as well as J. Harrison Brown, sales manager of the factory. The fire brick



company delegation arrived in Columbia early on the day of the game and the Commercial Club of Columbia, through its secretary, Fred Eldeau, met the visitors at the train. He had provided automobiles and the brick factory employes were taken on a tour of the city. A special section of seats in the bleachers at the football game were reserved for them. They all remained for dinner after the game and a special train was provided to take them back to their homes in Mexico late at night.

## GIVING A THOUGHT TO FIRE INSURANCE

No. 2.

By John B. Morton, President National Board of Fire Underwriters, New York.

WERE I a business man seeking safe quarters for a mercantile or manufacturing enterprise in any large city, I would not only want information as to the rental price but I would want to know what fire insurance rate I would have to pay. While no guarantee against destruction by fire, of course, a low premium rate indicates that the construction is good and the danger from fire minimized. There is nothing like modern scientific rating by schedule to strip off the gingerbread and make a building transparent.

Schedule rating is your fire insurance balance sheet of debits and credits. On the debit side are the fire breeding and fire spreading deficiencies; on the credit side the fire resisting, fire preventing and fire extinguishing factors. As these matters are largely under the control of the owner, we call this a self-elective rating system. It is rightly named.

Pause for a moment and imagine the thousands of ramifications that must enter into schedule rating. No two buildings are alike; no two occupancies alike; fire resistive and fire breeding conditions are all different.

Designed at first for mercantile and manufacturing properties and other large structures used for business purposes, schedule rating has been extended to apartment houses of larger area, though not yet generally to average dwellings. It takes into consideration varying features of each individual risk and looks also to the conflagration possibilities and probabilities of the city in which the property is located, including width and grade of the streets, police and fire department efficiency and other factors that might have a bearing upon "damageability" from fire.

There is nothing secret about the way your rate is made. It is set forth in this balance sheet of debits and credits (all printed out in detail and expressed in dollars and cents) and you or your authorized agent or broker may have a copy. In fact you should study this balance sheet carefully if you would know how your premium rate may be still lowered by improving the fire resistive features of your property.

Our schedules are not perfect—no man made system is—but we are sincerely trying to perfect this self-elective plan of rating for your sake as well as our own. It is one of the anomalies of fire insurance that we, as underwriters, would rather insure low than high rated risks. So we bend our energies toward inducing you so to perfect and safeguard your property that a low rate will be produced. Every time we can by this method prevent a fire loss—and every fire in a large city is the seed of a conflagration—we reduce the cost to you, furnish an example to others, conserve the resources of the country and possibly make some money ourselves. Yours is the short, but ours is the long road to profit.

About the only classes of properties today not generally rated by schedule are average dwellings and risks of like

character. Logically all such properties fall into certain groupings based upon construction and take the same or a fixed or flat rate. We term it a "minimum" rate. It is quite expensive to rate dwellings by schedule, there not being enough differentiation in the individual risks, which are grouped by grades of construction called "classes," to make an appreciable difference, and the premium rate is so low to start with that the variation is likely to be only a few cents either way. The trend, however, is toward the application of schedule rating to even these few exceptional classes.

The machinery for schedule rating is enormous. Practically every fire loss in the United States sustained by stock companies is now classified as to cause, construction of the building, occupancy—everything! It is a herculean job. We are learning to measure the "damageability" of property of the many kinds (how susceptible to fire and water damage it is); the hazards of "exposure" (your neighbor's property); what breeds fire, spreads fire, and what puts out fire. All this is reflected in a basis rate which may be termed our manufacturing cost for better understanding. To this we must add our home office expense; the charges we have to pay for public supervision, and fees and licenses, to the forty-eight states of the Union; taxes, (exceptionally high taxes they are too), and the cost of inspections, reinspections and what not, all of which may be likened to the "jobbing" of manufactured articles, though there is, of course, much difference. Our retailing process comes when the finished product—the policy contract—is delivered to you at a given rate through local agents or brokers. In addition to all this, of course, comes the constant stream of fire losses and their adjustment and payment.

Every agent and every broker are lending their influence to induce you to make the changes that will make your property safer and thereby secure credits in your premium rate; inducements that make the cost to you lower. Every rating organization in the country has an expert staff that is ever at your service for this specific purpose.

If you know of any other business that is so ready and so willing, even so anxious, to give you immediate concession in price for doing your obvious duty to yourself, your community and your nation—well, I would like to know what business it is!

### FIRE AND MORAL HAZARDS.

The moral hazard is made a feature by fire insurance people as well as by life insurance people and bankers and others. Yet while it is some factor it is plainly being overworked and the main factor is in the physical hazard itself.

For example, in pointing out the difference between fire loss in this country and in Europe we may logically assume that the moral hazard is the same. That the Americans are no worse morally than the Europeans. The higher fire loss here per capita is unquestionably due to physical hazards.

In a word, a big part of our fire loss is due to using too much fuel in the form of wood for building material and the best way to cure it all is to do our building with material that will neither burn nor rot. Reducing the physical hazard in this way is a much more practical proposition than arguing about the moral hazard. Building with clay products not only means reducing the danger of loss by fire, but it also means reducing the fire insurance rates and the upkeep of fire departments.

One educational result of association meetings is in the better knowledge those attending get of a comparative efficiency in the business, which is a useful guide to shaping future plans.



## SIDE LIGHTS ON MEN IN THE TRADE

The Justice Radiated Heat Clay Products Dryer and Its Inventor, Ithamar M. Justice.

IT IS OFTTIMES BOTH interesting and helpful to read accounts of the life work of those who have attained high places in the regards of their fellow men. The steps in their advancement most frequently were over slippery stones of trials and tribulations, each succeeding move encountering new obstacles to be overcome, but when accomplished adding to the polishing process experience serves and to the store of knowledge which makes for the real value in the men we must rely upon to give us council and advice concerning ceramic problems.

Since the relating of the life work of the men who have made a success in their particular field is entertaining and instructive to the average reader, we deem it fitting and proper to give from time to time this otherwise hidden knowledge, which will show on the printed page just how these prominent men have approached the goal of their ambition.

In this issue it is our privilege to give a condensed autobiography of Ithamar M. Justice, the inventor of the Justice Radiated Heat Drier.

In 1863, on a farm in the southern part of Marion County, Ohio, Ithamar M. Justice was born. His early training was learning the farm industry by method of strict application to the work and also acquiring some education by attending the district school. At the age of fourteen he decided that his education was sufficient and quit school, but, after one year, during which time he had a trip with his father's family to southern Kansas, and it seemed necessary to keep in touch by correspondence with his cousins back in Ohio, the fact developed that his education was so deficient that correspondence was seemingly impossible. At least he realized that he could not place his thoughts intelligently on paper in writing language. At the end of a year he returned to Ohio and then applied himself more diligently than in the earlier days to study in the country district school. By hard application he had finished the country school at the age of seventeen.

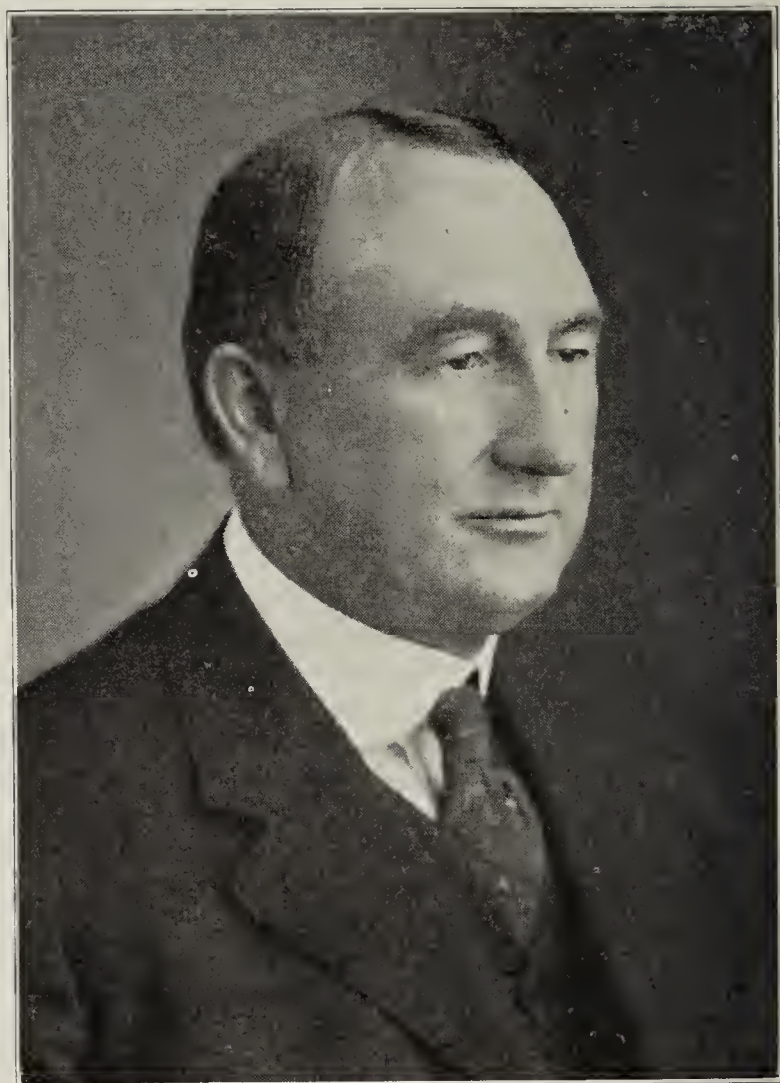
He then attended Normal School at Delaware, Ohio, for two years, at the end of which period he had gained sufficiently in his studies to win a teacher's certificate in Marion County, which gave authority to teach in the public schools of that county for a period of six months. He immediately secured a position as teacher in the old home school, which position he retained for a period of four years and in the meantime gained further in his education by attending the Northwestern University at Ada, Ohio. He continued as a teacher in the public schools of Marion and Wood Counties, Ohio, for a number of years and finally resigned to begin a new career as a clayworker.

At North Baltimore, Ohio, he met and became a great friend of Mr. W. D. Richardson, who was then and is now one of the best known and most progressive men in the clay industry and whose influence led Mr. Justice out of school work and into clayworking. The position he took at the brick yard under Mr. Richardson was for general work, but with the idea that it was brick yard education he was after. At the end of five years he had filled practically every position in the clay plant, from digging the clay to loading the finished bricks in the cars for shipment. Two years of this time was spent at the burning end and much knowledge concerning the art of burning clay products was acquired. The bricks were manufactured by the dry press process and the fuel used for burning most of the time was natural gas. Crude oil was substituted when the gas supply gave out, and burning with oil had to be learned and mastered in order to

secure the same results as with natural gas, all of which was brick yard education.

In 1895 he went to Cleveland where he again joined Mr. Richardson in a large plant manufacturing paving blocks by the stiff mud process. Here it was that he had his first experience with dryers, and he then and there became interested in the subject of drying clay products, and a student of the art by actual practice. The dryers used at this plant at that time were known as steam dryers. Later the company started to build what was known as a waste heat dryer, but it was never completed. However, the use of the steam dryer and the planning of the new waste heat dryer were along educational lines in the industry.

In 1896 Mr. Justice designed and supervised the construction of a large clay plant for Mr. H. C. Dunn at Erie, Pa.



Ithamar M. Justice, Dayton, Ohio.

It was at this plant that he had his first opportunity to design, plan and construct his first dryer. By necessity, this dryer had to be a combination of direct steam heating and indirect steam heating by using a fan to draw the air over steam coils and blow the heated air into the dryer. The action of the fan was beneficial to the direct heating system because it offered a certain amount of circulation by artificial means, and this proved helpful as against direct heating and the use of natural draft. The material that was used for the construction of this dryer was all old and used stuff, taken from the plant formerly owned by Mr. Dunn, this being the only available material. This dryer as a whole was more or less a makeshift, but it developed after being placed in operation, that it was quite successful and efficient, because fundamental laws of drying clay ware had been very closely followed, though perhaps unconsciously so far as the designer was concerned. The owner was fully satisfied and pleased with the result.

Following the building of the new plant for Mr. Dunn, Mr.



Justice took management of a dry press brick plant known as the Seldon Brick Company in Erie, and continued to operate it for a period of two years. There was apparently very little to be learned in the operation of this plant except in the matter of burning, due to the peculiar character of the material, and by reason of this fact he acquired a deeper and better knowledge of the burning of clay wares. The plant had been in operation for about thirty years and because of being located within the city, the material became exhausted and it was closed at the end of his two years' operation and finally dismantled.

He then gained some further and valuable experience in the manufacture of clay products by going on the road for several months selling soft mud brick machinery for the Horton Manufacturing Company, Painesville, Ohio. The information gained while engaged in this work was indeed most valuable because it gave the opportunity to take up the study of one more of the great processes, so that with this experience he had a very clear knowledge of the manufacture of brick by the dry press, stiff mud and soft mud processes.

After this, Mr. Justice engaged as superintendent of a stiff mud brick plant at Carbon, Pa., near New Castle, which preceding this time had been practically a failure. A careful examination of the plant and the material from which the bricks were made, showed clearly to his mind that success could be secured, and after assuring himself of this fact, he entered upon the work. Under his guidance for a year it was shown that the plant had all the elements of physical success—this being clearly proven, but it was not a financial success because the equipment in the plant was too limited, bringing about a condition where the machinery could only operate about 60 per cent of the time. However, upon the showing made, the property was sold to progressive and practical business men and for many years afterward the plant was regarded as one of the most successful to be found anywhere.

He then engaged with the C. W. Raymond Company, Dayton, Ohio, as traveling salesman for their line of brick machinery, and remained with them for eleven years, except for one year in which he was engaged to design, construct and operate a brick plant at Dairy, Pa. It was while he was completing this plant and installing a hot air dryer under the McHenry patents that he conceived the idea of a new type of dryer, which he later developed and exploited in the industry and which today is known as the Justice Radiated Heat Dryer, and used for drying practically all structural clay products.

In 1910 he severed his connection with the Raymond Company and engaged with the Manufacturers' Equipment Company, Dayton, Ohio, of which he was one of the original organizers, and has been its vice-president since its incorporation.

Soon after his connection with the new company he took out a second patent on the dryer, which relates more particularly to the heating system. The original patent secured while with the Raymond Company, and assigned to them at the time, was by due process of law re-assigned to Mr. Justice, and the two patents afford ample protection for covering his invention.

The Manufacturers' Equipment Company has sold and made many installations of this dryer, and under his direction and supervision they have met with marked success, and hundreds of satisfied customers attest this fact by the strongest testimonial letters.

The Justice Radiated Heat Dryer is today the only one of its kind regularly on the market, and it has no competition. Justice and his dryer are known throughout the United States and several foreign countries, where the dryers have been

installed and are giving the very highest possible results. Building clay products dryers has been a life's work with him, and the principle of drying clay products has been a life study, and he is an earnest, practical student of the art.

Mr. Justice has only recently secured additional patents on a Radiated Heat Drying System, which when explained to the trade, will be known as the Justice Direct Action Dryer. This dryer will differ from the original one in the manner of introducing the air and the ware for drying, as in the new direct action dryer, the air and ware will enter at the receiving end at normal temperature and continue toward the discharge end, where the ware will issue hot and dry, and the air carrying off the moisture will leave the dryer at high temperature by carrying away all the water evaporated from the ware in the process of drying. This idea is not altogether new in the world, but is entirely new as a practical apparatus for drying clay ware. It has been examined carefully and minutely by some of the best professional men connected with the industry, and pronounced absolutely sound in principle. The prediction is made by the Manufacturers' Equipment Company that this dryer will be the greatest of all dryers if placed before the American clay industry. It is protected by very strong patent claims, and when the industrial conditions of the country are somewhere near normal, his new dryer will be introduced to the clay craft.

Written for THE CLAY-WORKER.

#### LOUISVILLE BRICK NEWS.

THERE HAS BEEN a brisk fall trade in brick in Louisville and as a consequence not only have the local brick plants been busy but those agents in the city selling for outside producers have had a goodly run of business too. Not only has there been more than the usual percentage of brick building in the home building of Louisville, which has led all the rest this year, but even where the smaller homes were not built of brick walls entirely, many have a facing of brick veneer so it has been a splendid season in the face brick business.

W. E. Whaley, distributor for a number of outside concerns, with headquarters in the Todd Building, has had a very busy and successful season and has been doing a goodly share of splendid brick advertising.

The R. B. Tyler Co. has been busy on the job, too, both in advertising and in selling and distributing brick and building specialties.

The Coral Ridge Clay Products Co. is running to capacity right along and incidentally is making some addition and improvement to its equipment. The latest addition consists of two Hummer electric vibrator screens, one for each of the dry pans being operated. These screens are a new thing in the industry and are the products of the W. S. Tyler Co., of Cleveland. They are experimenting in their installation with different meshes from 9-11 up to as coarse as 4 to see how they work and what difference it may make with their products. They feel that the new screens will be a decided improvement over the plain piano wire screens used heretofore.

The Southern Brick and Tile Co. has come to the end of the season in tile making and the opening of the season for putting tile in the ground, and at this writing T. Bishop is busy most of his time out in the country laying out plots for tile drainage. The brick plant has been running right along to capacity and had a very good demand during the late summer and fall.

COLONEL.

Good roads and good homes add to the value of both the individual property and to the community as a whole.





### THE TUNNEL KILN IN THE BRICK INDUSTRY.

Editor Clay-Worker:

In the August Clay-Worker Mr. James P. Williams made the statement "it has been demonstrated beyond any reasonable doubt that the railroad tunnel kiln is now burning successfully both common building tile, drain tile and common clay building brick," and gives it as his opinion that "it is only a question of time before all brick and tile makers must come to this form of burning apparatus or shut up shop." Thinking that such broad statements, unsupported by facts, might mislead some of your readers, I asked him in the September number to state definitely where, from his own inspection, these products were being burned successfully "beyond any reasonable doubt." In the October Clay-Worker is his answer, in which he says that he "spent a number of days" watching a muffle tunnel kiln burn drain tile and building tile and "was shown some building brick that had been run through as a test." He expresses himself as satisfied with the operation of the kiln and with the results. I have myself visited this plant three or four times and my opinion is that the kiln is still in an experimental stage, though undoubtedly some of their difficulties will be overcome.

I sympathize with and feel indebted to anyone who is doing something new and striving to make an improvement in the art and I do not want to criticize such attempts. In fact, if Mr. Williams had, in his original article, confined himself to a description of this plant and his opinion of the practicability of burning hollow ware in this kiln, I would have said nothing. I do not object to his pointing to this plant, in answering my questions, since it seems to be the only plant that he has seen operating on these products. I do not care to discuss in your columns the experiments that are now being made. Mr. Williams doubtless saw the item in the October 18th issue of your contemporary in reference to this plant, that it "was closed down temporarily recently for repairs. It is expected to resume operations in a few weeks."

So much for the tunnel kiln in the burning of tile. Now as to common building brick the only answer Mr. Williams makes to my request for facts is "a muffled (tunnel) kiln is now under fire at one of the Bradford (Pa.) plants and is burning, or will burn as soon as they get the heat up, shale products in the coarser building wares."

All that I aimed to accomplish in my previous letter was to bring out the facts upon which Mr. Williams based his statements. I leave your readers to judge whether, as a "consulting engineer," he did not form his opinion hastily and whether the evidence that he has presented justifies his conclusions.

As to economy of fuel in the tunnel kiln, or in any good regenerative continuous kiln, there is no question. In the burning of hollow ware, the tunnel kiln may yet be proven to

be practical, but in the burning of brick from common clays or shales there are certain difficulties that have not yet been overcome, and I want to repeat my former statement that even if the kiln should be found to be fairly successful in the burning, it will not meet the demand for more economical brick manufacture, since the most modern systems will save one-half of the labor from cutting table to the railroad car over any tunnel kiln system. TRUTH SEEKER.

### OHIO CLAY NEWS.

With the opening of November little change is noted in the brick industry in the Canton-New Philadelphia district. Brick manufacturers are optimistic as to the future and anticipate brick needs for spring will be in excess of a year ago. Plants continue to operate on a normal basis, but none of the manufacturers are contemplating increasing production at this time.

"We anticipate much activity in the paving block business in the early spring," said an official of the Metropolitan Paving Brick Company. "Our plants are still operating, all six of them, four in the Canton district and two at Bessemer, Pa., and we expect that within the next week or ten days that all contracts will be cleaned up. Lettings are infrequent at this time, but there is a large volume of legislation under way locally and in nearby cities for proposed paving jobs. We believe that spring business will be in excess of that of this year and are making preparations to increase productions at our plants and will be in a position to handle an increased volume of business when the time comes."

P. B. Belden, secretary and general manager of the Belden Brick Company, manufacturers of building, facing and fire brick, operating five plants in the Canton district says business in this line is slowing up considerably and that at the present time there is practically no demand for the product. Building is inactive and officials of this firm look for no improvement in the situation for several weeks. Production at the various plants is being kept at a point where only sufficient brick is being made to replace stock.

Work was resumed this week at the Uhrichsville plant of the American Sewer Pipe Company, with approximately 60 men employed.

Prospects for a steady run are good, it was stated at the plant.

Excavation has been started at Sugar Creek for a new brick plant of which Edward Shepfer and Moomaw Brothers are the promoters.

The plant of the Brunt Tile and Porcelain Company, located at Chaseland, a suburb of Columbus, was closed down late last month indefinitely. It may be idle two or three months, depending on conditions and demand. A number of improvements to the plant have been completed and it will be ready for operation on a moment's notice. Electrical porcelain is manufactured.

Officers of the Falston Fire Clay Company of Rochester, Pa., the large manufacturers of flashed iron spot brick, used chiefly in the building of homes and the Rochester Clay Products Company say business is improving. BUCKEYE.



Written for THE CLAY-WORKER.

## MILWAUKEE AND WISCONSIN BRICK AND CLAY NEWS.



NE OF THE principal difficulties that has been encountered by producers of clay products in Wisconsin, in respect to providing the public with lower prices on brick, has been the high freight rate. The Wisconsin Clay Manufacturers' Association, of which John Ringle, Sr., Wausau, is president, through A. E. Soule, manager of the Central

Wisconsin Traffic Association, has filed an action against eleven railroad companies operating in the State of Wisconsin for a reduction in freight rate on brick between points in this state. The Wisconsin Railroad Commission will announce the time for a hearing of the protest within a short time.

According to the statement filed with the Commission, the Association seeks to secure lower freight rates because of the excessive charge for hauling brick short distances. In 1918 there was a general advance of 25 per cent on all freight and instead of making that increase on brick shipments the rate was fixed at 2 cents per pound, which in most cases amounted to from 60 to 100 per cent increase. This year the railroads increased freight rates 35 per cent. The association is contesting this last advance, claiming that the first advance was greater than the two advances on other commodities combined.

In regard to high freight costs on brick, Arthur Brisbane, well known editor, wrote recently in the Milwaukee Wisconsin News, the following editorial on brick prices and freight rates:

"You can buy brick now wholesale at \$16 a thousand. That sounds cheap, compared with \$40 and more not so long ago. It sounds dear compared with \$6 and \$8, the old price for ordinary brick. But the price of brick makes little difference when you consider the price of hauling. To haul a thousand brick less than fifty miles some railroads charge \$15, about 100 per cent more than brick used to cost delivered not so long ago. They say, 'Freight rates do not affect the consumer.' They do, if you pay a cent and a half to carry one brick fifty miles."

The Struck & Irwin Fuel Co., Madison, Wis., has been appointed distributor of Streator shale drain tile for the counties of southwestern Wisconsin. This tile has found a ready sale for use in drainage of agricultural lands of this section.

Clay drain pipe were the choice of members of the board of public works at Beloit, Wis., when bids for sewer construction were opened recently. Specifications as set forth in the ordinance authorizing the work called for the use of vitrified clay pipe. Several other bids based on the use of concrete pipe were not recognized although quite an effort was made to substitute the concrete product for the recognized superior clay pipe.

From the standpoint of building requirements, clay products are in good demand in Milwaukee, where the building boom has been noticeable for several months. Records of the building inspector show an appreciable gain over last year and October this year was in excess of the best previous month, October, 1919. Prospects for the coming months are reported as good, judging from the activities among architects and contractors.

A. BADGER.

## KRUPP TO BUILD BRICK PLANT IN MICHIGAN.

Location of an American branch of what is said to be a German corporation controlled by the Krupp interests of Essen, Germany, at River Rouge, Mich., where pressed brick and tile will be produced, has been announced. The com-

pany, which is organized in this country under the name of the American Brick & Tile Co., has acquired a site of approximately 16 acres, with 60 feet frontage on the Rouge river.

## TO REBUILD PLANT DESTROYED BY FIRE.

THE DONNELLY BRICK CO., of New Britain, Conn., will rebuild their plant which was but recently destroyed by fire. The work will include a new machine department, dryer and tunnel kiln building and other structures, in fact, the plant of necessity will be built almost entire, since the fire was very disastrous.

The old plant was unique in many particulars and ranked as the best common brick plant in Connecticut. It was located  $2\frac{1}{4}$  miles from the outskirts of New Britain and just west of Berlin. The plant had been operating continuously 365 days out of the year, an unusual record for a New England brick plant.

In 1893 Mr. M. H. Donnelly, Sr., founded a hand yard on the site, about 4,000,000 soft mud brick being made annually. The clay was spaded and turned into brick in the old fashioned way, sun dried and burned chiefly with wood.

In 1908, the management of the business was taken over by Mr. M. H. Donnelly, Jr., on account of the death of his father. The capacity of the plant was then increased and the manufacture modernized by the installation of a steam shovel in the clay pit, which reduced the requirement of men in the clay pit from eighteen to three. Clay cars (five yards to the car) were installed and drawn to plant, 500 feet distance, up incline by winding drum and cable. The forty acres of clay here averaging better than 24 feet face will supply material for over 200 years' operation. The clay was dumped into pug mill and from there into New Haven brick machine. Six brick made to the mold, 48,000 per day, a Potts sander being used.

The brick were dried in the modernized plant in a Wellington 4-track steam drier of two sections, one being emptied while the other was filled, the capacity being 96,000. When the brick were partially dried, they were conveyed by Wellington conveyor system to setters who set them on kiln cars, on which brick were taken into and through a hot exhaust air drier on return track of American Dressler Tunnel Kiln. After 13 hours drying treatment the superheated brick were pushed into the tunnel kiln and in 41 hours burned in excellent fashion. Fifteen hundred and twenty-two brick were on each car and a car of brick were put in and taken out of kiln each hour.

International Clay Machinery Co.'s gas producers were used.

A Galion coal unloader saved considerable money in the coal handling.

The electric equipment was furnished by the Westinghouse Electric and Manufacturing Company and General Electric Company. A hand operated temperature recording instrument of the Brown Instrument Company was used.

Three fans, one for draft, one for track cooling, and one for hot air to drier were used. The Dressler tunnel kiln was installed the first of the year and had been in operation over five months, when the disastrous fire wiped out nearly the entire plant. Some interesting data was being compiled at the time of the fire as to the operation of the kiln and we had anticipated giving some very complete information to the readers of The Clay-Worker in this particular.

The officers of the company are: Mr. J. M. Curtin, president-treasurer; Mr. J. H. Holmes, vice-president, and Mr. M. H. Donnelly, Jr., assistant treasurer, secretary and general manager.

The new plant will be ideal and up-to-the-minute in every particular.



## THE CERAMIST'S CORNER

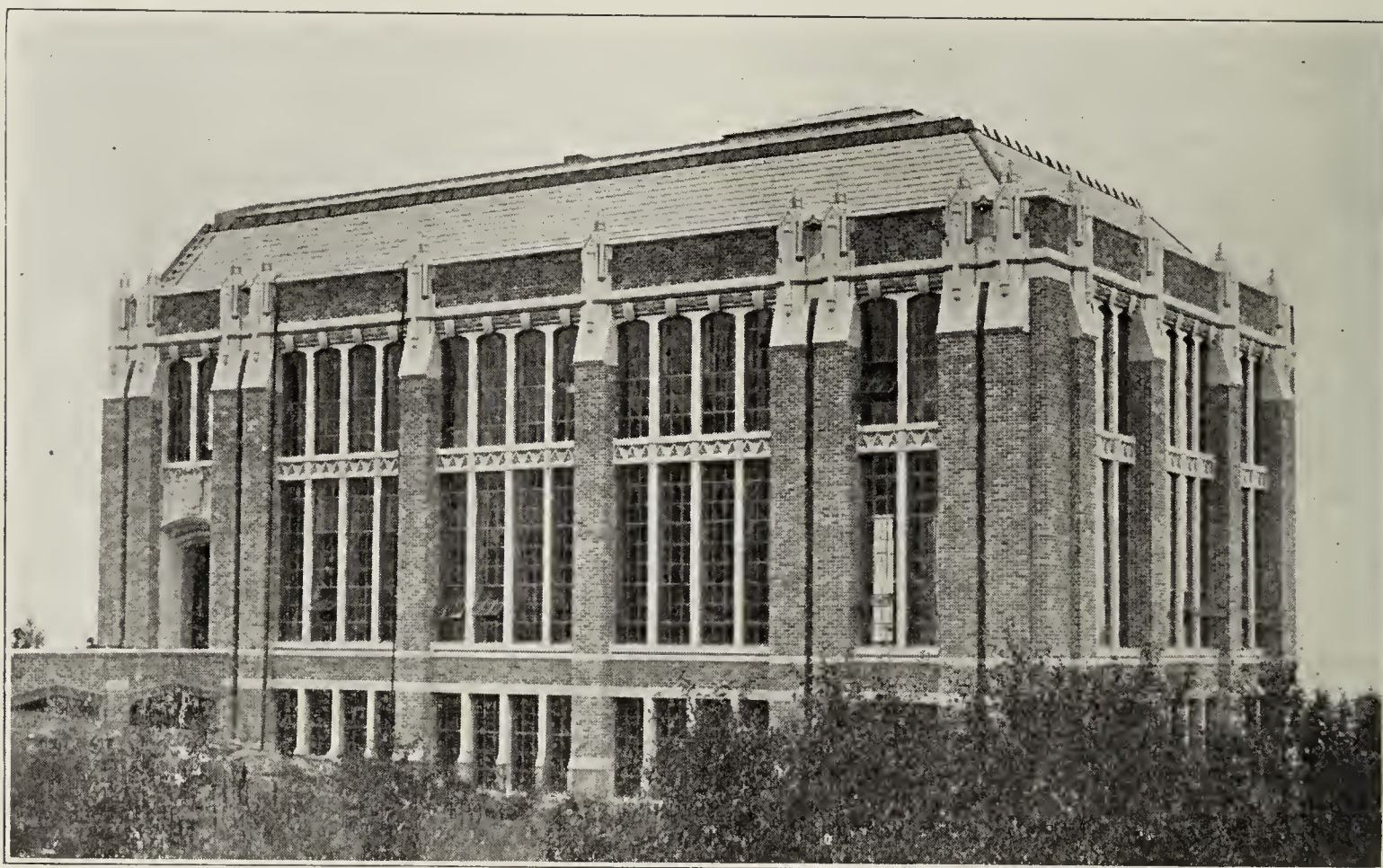
*This is a department which appears in The Clay-Worker from time to time dealing with practical and technical matters of especial interest to the ceramist. This month we publish the current items on various matters pertaining particularly to the interests of manufacturers of the higher grade ceramic ware.*

### IMPETUS GIVEN TO CLAYWORKING IN NORTHWEST

CERAMIC research and studies on coal-washing are the two problems which will receive special attention at the new mining laboratory, recently completed on the University of Washington campus at Seattle, Wash., and dedicated during the visit there of H. Foster Bain, director of the United States Bureau of Mines, on September 23. The new building, of steel frame construction, is the fourth of the university's buildings to be devoted solely to mining and is the

refractories, pottery, enameled metals, abrasives, cements, limes and plasters and thermal insulators.

The Washington State Geological Survey has collected samples of clay and studied the geology of the deposits, while the ceramic department of the School of Mines of the University of Washington has tested 274 clays according to the standard methods of testing of the American Ceramic Society. It is expected that a bulletin covering detailed description of the testing work and a general summary of methods of testing and the physical and chemical properties of clays will be completed very shortly.



Handsome Brick Building Housing New Ceramic Laboratories, University of Washington,

seventh completed unit of the building program inaugurated by the university in 1916.

"The ceramic industry in Washington has not been developed to a very great extent," Clyde E. Williams, superintendent of the Federal Bureau of Mines Northwest experiment station, said at the inauguration, "but representative clays are present in sufficient form and the Northwest can supply all the basic materials necessary to establish a ceramics industry capable of supplying the demand here for clay products."

The new building is 60 feet wide and 80 feet long and approximately 53 feet high above the ground. The coal work occupies 48 feet of the length and the ceramics work 32 feet. The coal-washing laboratories are being equipped to handle efficiently any quantity of coal up to a carload lot and only the most efficient experimental equipment is being installed.

The equipment of the ceramics portion will make it possible to do virtually all the testing work for structural wares,

Almost every variety of clay was found in the state. Residual kaolin-like clays from the Spokane district; buff-burning plastic, lacustrine clays from the same district; Eocene shales from western Washington; Pleistocene red-burning clays from southwestern Washington; glacial clays from the Puget Sound area; basaltic clays from Southwestern and eastern Washington; refractory clays from the Sumas, Green River, Napavine and Spokane districts. Terra cotta, stoneware, and buff-burning pottery clays from the Green River and Spokane districts. All varieties of red-burning structural wares can be made from the shales, glacial, pleistocene and basaltic clays.

This clay survey is the first of a series of reports on the available ceramic resources of the Pacific Northwest.

The new laboratories were designed jointly by the staff of the School of Mines and officials of the Bureau of Mines and will be used jointly by the School of Mines and the



Northwest experiment station of the Bureau of Mines under a co-operative agreement. The cost of the building was \$125,000, of which sum \$50,000 was devoted to the ceramics portion of the laboratories.

#### HIGH FIRE PORCELAIN GLAZES.

A TECHNOLOGIC paper of the Bureau of Standards by H. H. Sortwell, Assistant Ceramic Engineer, covering the subject of high fire porcelain glazes with charted details. This is a technologic paper of the Bureau of Standards No. 196 and may be obtained from the Superintendent of Documents, Washington, D. C., for 5 cents a copy.

### RECENT PATENTS

#### IN THE CLAYWORKING INDUSTRY.

[Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering, give patent number only.]

**No. 1,392,459. Apparatus for Cutting Bricks from Natural Deposits.** Edward B. Starr and Howard E. Marsh, Lompoc, Cal., patentees.

Patent for an apparatus for cutting bricks from a natural bank of material comprising a vehicle adapted to move parallel to the bank face, guide means extending laterally from said vehicle, a slide member mounted to slide on said guide means, motor-driven controllable means for moving the slide member along said guide means, a cutter head mounted on the slide member to move vertically thereon, and sawing means carried by the cutter head.

**No. 1,375,719. Brick Kiln.** Frank Munhollon, Cleveland, Ohio, patentee.

This patent is for a brick kiln having a series of furnaces spaced about the outer wall thereof, a floor having substantially uniform space therein, transverse passages beneath the floor and passages connecting these transverse passages with the furnaces, and having openings into the transverse passages varied in size with relation to the distance from the furnaces.

**No. 1,394,759. Brick.** James Alexander Papot, Tucson, Arizona, patentee.

In a wall construction, bricks arranged to provide opposed stretcher rows, alternate built-up sections disposed between the stretcher rows, one of the said sections including bricks laid on their side faces and having their adjacent edges disposed in spaced relation to provide a passageway, the adjacent section including bricks laid on their side faces, and bricks positioned on the upper side faces of the latter bricks.

**No. 1,394,495. Clay-working Machinery.** Walter A. Gruenberg, Birmingham, Mich., patentee. Patent assigned to Joseph L. Marcero, Pontiac, Mich.

In a clay-working machine, a base, a rotatable top thereon, molds on the top, means for rotating the top a quarter of a turn at a time, means for opening and closing the molds and means for brushing out the molds, means for inserting clay in the molds, means for coring out and molded clay, and means for opening the molds to deliver the molded product at each successive quarter turn of the machine top.

**No. 1,394,285. Brick Machine.** Yves D'Avy, Opelousas, La., patentee.

Patent granted for a brick-making device comprising complementary form and follower members, the form member being provided with a series of molding chambers and consist-

ing of parallel side walls and transversely-spanning terminal and intermediate webs connecting the side webs connecting the side walls, transverse clip rounds connecting the extremities of the side walls beyond the terminal webs, the follower member having depending guide ears adapted for sliding engagement with the exterior surface of the terminal webs of the form members, and a series of intermediate plungers terminally spaced apart.

**No. 1,394,873. Arch and Arch-Brick.** Alfred H. Willett, West New York, N. J., patentee. Patent assigned to American Arch Co., New York, N. Y.

A locomotive arch composed of a plurality of baffle units spanning the distance between supporting members, said units being so constructed that when they are all arranged in one position they form an arch of unbroken continuity, but when certain parts of said units are arranged in another position openings are afforded through the arch.

**No. 1,395,173. Manufacture of Bricks.** Freidrich Brettschneider, Raitz, Moravia, patentee.

A process for making bricks which consists in charging plastic material into a mold frame closing said frame and supplying pressure to cause the excess-charge to escape and to be cut off between the mold frame and cover plates, the pressure being then maintained until the rest of the excess charge resulting from the elasticity of the mass has escaped through apertures provided for this purpose.

**No. 1,395,176. Hollow Tile.** Jacob Voorhis Close, Norwalk, Conn., patentee.

A building tile having a plurality of differently shaped vertical openings, sundry of the openings one end wall recessed, the opening at one end of the tile having its outer end wall provided with wire cuts to permit its removal to form a recess at the end of the tile, the side walls of the opening having a recessed end wall being provided with wire cuts, whereby a number of different shaped units can be formed from the tile, each having a recess in one end.

#### Trade-mark Registered.

**No. 147,734. Seaboard Refractories Co., Valentines, Raritan Township, N. J.** Trade-mark registered for name "Middlesex" for refractory bricks of standard and special shapes.

#### CHANGE IN PERSONNEL OF BUCYRUS COMPANY.

The Bucyrus Company, South Milwaukee, Wis., announces the removal of its New York office to Suite 728, 30 Church Street, with Mr. E. G. Lewis in charge as Eastern Sales Manager, effective December 1st. Mr. Lewis has for many years been connected with the sales organization of the Bucyrus Company both in Chicago and in New York and has also had wide experience in railroad and general contracting work, both in this country and abroad.

Mr. M. J. Woodhull, who has had large experience in the manufacture and sale of railroad construction equipment with the Bucyrus Company and elsewhere, is appointed Central Sales Manager to succeed Mr. Lewis in charge of the Chicago office, 622 McCormick Building.

Mr. E. R. Weber is appointed Northern Sales Manager, at Minneapolis, 1224 McKnight Building, to succeed Mr. J. N. Gawthrop, who will become associated with Mr. Lewis in New York. Mr. Weber is well known to the contractors in the Northwest, having been connected with the engineering, manufacturing and sales departments of the Bucyrus Company for the last fifteen years.

Money conditions are more favorable now for building operations.



MONTHLY DIGEST OF CONDITIONS IN THE COMMON BRICK INDUSTRY.

Prepared by the Common Brick Manufacturers' Association of America.

THE UPWARD TENDENCY in the construction industry which has been reflected in these reports for the past two months stands out strongly in the current issue. In the Digest of August and September an improvement was apparent in the relation of orders on the books to stocks on hand. It was also expressed in the report of the manufacturers as to outlook for the future. This month the tendency has had its effect upon the price of brick.

It was predicted in the Digest that a stiffening of demand would show itself in an equalization of prices. While the composite price drawn from the current reports stands almost exactly as it was a month ago, being \$13.80, as against \$13.87 on September 1, the variation between the highest price and the lowest price is less than it was a month ago. In some sections, where overcompetition had driven the price below cost of manufacture, there are found advances in the price due to the better demand for brick. In other sections, where the price was based upon fractional production, which always sends up the unit price, there is a lowering of the quotation, due to a larger production from the plants. Altogether the price quotations in this issue are on a much more businesslike and wholesome basis.

There is yet practically no relief in freight rates, and until the rate upon brick is reduced many large building centers which receive their supply by rail will continue to pay on the job a price that is too long on the transportation side. In Ohio a reduction in the rate on paving brick is already in effect and the Public Utilities Commission has promised that like reductions will be effective on building brick.

A few months ago the producers of heavy building materials stood almost alone in their contention that exorbitant freight rates were blocking building operations. Railroad officials denied it; the Interstate Commerce Commission showed no sympathy with the clay industry; but today there is general recognition of the fact and such widespread discussion of high freight rates that it is believed some relief must surely come soon. The Unemployment Conference in Washington put emphasis upon the fact that high freight rates prohibit the shipment of heavy materials in many localities, holding up building and contributing to unemployment.

Sharing interest with the threatened railroad strike on the front page of all the newspapers has been the subject of high freight rates. It may be expected that when the glare of publicity is turned on to any evil as it now is upon this one it cannot long exist. The brick manufacturers may take considerable encouragement from the fact that the whole country is

at last agitating the subject of freight rates. To the brick manufacturer the freight rate has a double bearing. It puts an excessive cost upon his fuel supply, as well as an excessive rate upon the delivery of his finished product. The reduction of freight rates will almost immediately be reflected in the price of brick delivered on the job.

The coming of winter, which results in the closing of many plants in the colder climates, will find a smaller stock of building brick on hand than has been recorded in many years. If the general pick-up in industrial conditions continues the brick men will find themselves pressed to take care of the demand when the spring season opens. The chance that fuel may cost less, and a possible reduction in some other elements of manufacture will tend to deter those manufacturers who might operate during the winter from piling up stocks against the spring demand. Practically every manufacturer of brick was caught in the early part of this year with stocks that were produced at the highest cost known to the industry, and with a declining market were forced to sell them at a loss.

About 75 per cent of the manufacturers contributing to this month's Digest state that the outlook is fair to good. This optimism seems to be about equally distributed among the 10 districts into which the membership of this Association is divided for the purpose of this report. Every section seems to have felt something of the business revival.

Out of a total of 104 manufacturers reporting, 54 say that manufacturing costs have not changed during the past month. Fourteen reports diminishing costs, and only 6 report increased costs. Those reporting the increase are in the western and mountain states.

NEW ALBANY PLANT IN OPERATION.

After more than a year's work of construction, the Acme Brick Company at Perla, Ark., one of the largest brick companies of its kind in the United States, has begun operation. This company has headquarters at Fort Worth, Tex., and also operates a brick plant at Denton and Bennett, Tex. The company has sales offices in all the principal cities of Texas, Oklahoma, Louisiana and Arkansas. The officers are W. R. Bennett, president; William Bryce, vice president; R. E. Harding, treasurer; J. E. Fender, secretary; B. G. Smith, plant manager, and Van Mitchell, superintendent of the Perla plant. The plant at Perla covers 125 acres, employs 125 men and has an annual pay roll of more than \$50,000. The company has installed but one unit—a capacity of about 50,000 bricks per day, but it plans to double this capacity soon, manufacturing 24,000,000 bricks during the year. This plant is modern in every respect. All the machinery is electrically driven. The company has built a railroad line from the Missouri Pacific tracks to its plants. Fire brick, face brick, and refractory shapes will be manufactured.

TABULATED REPORT AS OF OCTOBER 1, 1921.

| Dist. No. | Including States of                           | No. of Firms Reporting | Plants Closed Down | Burned Brick on Hand | Orders on Books | Price per Thousand at Brickyard | Price per Thousand at Brickyard Sept 1, 1921 |
|-----------|-----------------------------------------------|------------------------|--------------------|----------------------|-----------------|---------------------------------|----------------------------------------------|
| 1.        | N. Y., New England.....                       | 8                      | 4                  | 7,405,000            | 2,762,000       | \$13.00 to \$18.50              | \$13.00 to \$20.00                           |
| 2.        | Pa., N. J., Md., D. C., Del.....              | 13                     | 5                  | 27,648,000           | 21,199,000      | 12.00 to 18.00                  | 12.00 to 18.00                               |
| 3.        | Va., N. C., S. C., Ga., Fla.....              | 7                      | 1                  | 6,891,000            | 3,323,000       | 6.00 to 16.00                   | 6.00 to 16.00                                |
| 4.        | Mich., Ohio, W. Va.....                       | 5                      |                    | 3,710,000            | 4,087,000       | 12.00 to 17.50                  | 12.00 to 18.00                               |
| 5.        | Ill., Ind., Wis.....                          | 26                     | 5                  | 128,991,000          | 98,438,000      | 12.00 to 17.00                  | 12.00 to 18.00                               |
| 6.        | Ky., Tenn., Miss., Ala., Ark., La.....        | 13                     | 2                  | 10,619,000           | 3,646,000       | 10.00 to 18.00                  | 10.00 to 18.00                               |
| 7.        | N. and S. Dak., Minn., Neb., Ia., Kan., Mo... | 11                     | 9                  | 4,072,000            | 556,000         | 12.00 to 17.00                  | 12.00 to 18.00                               |
| 8.        | Okla., Tex., N. M.....                        | 11                     | 7                  | 9,052,000            | 2,668,000       | 10.00 to 14.00                  | 10.00 to 15.00                               |
| 9.        | Wash., Ore., Mont., Wyo., Ida., Utah, Colo... | 8                      | 3                  | 2,347,000            | 365,000         | 12.00 to 18.00                  | 12.00 to 18.00                               |
| 10.       | Calif., Ariz., Nev. ....                      | 2                      | 1                  | 4,867,000            | 600,000         | 15.00 to 16.00                  | 15.00 to 16.00                               |
|           | Total .....                                   | 104                    | 37                 | 205,602,000          | 137,644,000     |                                 |                                              |



## A GREAT INDUSTRIAL EXPOSITION.

### Fine Examples of Architectural Terra Cotta.

INDIANAPOLIS is a great industrial center, much greater than is generally known and appreciated by her own townsmen even. This fact was well demonstrated recently when the manufacturers of all manner of products, machinery and appliances, exhibited their wares at the Industrial Exposition, the first show of the kind undertaken in the Hoosier capital. It was a remarkable success. Every foot of floor space in the great automobile auditorium at the State Fair Ground was occupied, and a large number of would-be exhibitors who were late in making application were turned away for want of space. The show was a revelation to home folks as well as to visitors from out of town. As a result, there

finish panel used on the Bankers Trust Building, Indianapolis. The third is one of the polychrome panels used on Number 5 School Building, Indianapolis. The fourth and last is a portion of the ornamental frieze in impervious cream standard finish, used on Hotel Lincoln, Indianapolis. In the center at the rear is a cabinet with samples of all the finishes made by the company, including standard white glaze, full glaze, polychrome and pulsichrome. On either side are shown easels with panels of photos of a few of the many buildings in Indianapolis, the terra cotta for which has been supplied by the Indianapolis Terra Cotta Company.

### CHEBOYGAN TILE PLANT WORKING.

The Cheboygan Tile and Roofing Company's new plant at Cheboygan, Mich., is now in operation, the first run of brick



Display of Architectural Terra Cotta at the Indianapolis Industrial Exposition.

is a movement on foot for the erection of a much larger coliseum in which a similar show may be pulled off each year.

Among the many attractive exhibits was one by the Indianapolis Terra Cotta Company, and we are pleased to picture it, though the view gives but a hint of the beauty of the ware displayed. The color scheme of many of the panels challenged the admiration of all who viewed it and particularly those interested in architecture.

The large vase in the center is a duplicate of one which was made for the Knights of Columbus Home at Columbus, Ind. On the right hand side is a panel of pulsichrome finish, supplied for the Lexington Building, Twelfth and Meridian streets, Indianapolis. The next panel with full glaze finish was made for the Best Laundry Building, Indianapolis. The last is a polychrome panel used over the entrance of the Saville Apartment, Seventeenth and Illinois streets, Indianapolis. On the left hand side, the first piece is a bracket in dull enamel finish, from the main cornice of the National City Bank Building, Indianapolis. Next is a gray speckled

and tile show that excellent products can be made. The clay bed owned by the company is of fine quality of clay and is entirely free from lime. The Company is equipped to make drain tile, building tile and brick, with a capacity of 30,000 brick and 30,000 tile per day. Modern machinery and the latest methods are used.

### POTTS & CO.'S FOUNDRY BUILDING COMPLETED.

A new foundry and pattern storage building, erected by the C. & G. Potts Company at Washington and Blake streets, Indianapolis; at a cost of more than \$60,000, has just been completed. The company will occupy the new building soon. The foundry, which is regarded as a model of its kind, is equipped with new machinery, including hydraulic elevator and traveling crane. The construction is of steel frame with brick walls and a noncombustible roof. The Potts Company specializes in the designing and construction of soft mud brick machinery and supplies.



THE TRADE QUIZ BOX.

Many readers of *The Clay-Worker* are wont to ask the editor for information on various matters pertaining to the brick and tile business. Usually such questions are answered by letter on the theory that the party asking the question is the only one particularly concerned, but many times the queries are of a general character and cover points in the trade in which the general reader may be interested, so we have inaugurated a Trade Quiz Box. Under this head, questions and answers will be given and any reader who can give further particulars in response to any particular query, or desires information on any phase of the business, is invited to make use of this department.

FULLER'S EARTH.

**QUESTION:** Will you please give me some information in regard to Fuller's Earth. I know you have published something on this subject before, but I do not seem to find it. I would like to know what it is used for, and something about the production of Fuller's Earth.

**Answer:** Fuller's Earth obtains its name from its original use in fulling cloth, but only a little domestic earth is now used in this country for that purpose. It is used principally in bleaching and in clarifying or filtering fats, greases and oils. It is also used in the manufacture of pigments for printing wall papers, in detecting certain coloring matter in some food products, and as a substitute for talcum powder.

About 75,000 tons of Fuller's Earth are produced annually in the United States.\*

Output for 1920 was Largest on Record.

The great activity in the Fuller's Earth industry that began in 1915 continued during 1920, and is reflected in the large output for the year. The search for deposits of this material was active, not only in the Pacific Coast states, where some

very valuable deposits have been reported, but in old producing states, such as Alabama and Florida, and also in states that have not been producers, such as Pennsylvania and Virginia, where promising deposits have been found. The output in 1920 was the largest recorded, being 128,487 tons. It was greater than that of 1919 by 21 percent, more than three times as great as the output of 1913, and nearly nineteen times as great as that of the first year of production. The value of this output and the average price per ton were also the largest ever recorded, the value being 25 percent greater than that of 1919, nearly seven times greater than that of 1913, and more than sixty times as great as that of 1895. The average price per ton of Fuller's Earth in 1920 was only 4 percent greater than that of 1919. The quantity of imports in 1920 increased in even greater proportion than the domestic output, but the value of imports increased only 17 percent, owing to the lower average price per ton, which decreased 16 percent as compared with 1919.

OIL AS FUEL FOR BURNING CONTINUOUS KILNS.

**QUESTION:** I am interested in the application and use of fuel oil in the burning of wares in continuous kilns. Can you tell me something about it, and give me the names of firms using oil for fuel in this type of kiln?

**Answer:** Oil for fuel can be used in any type of kiln, but the furnace and number and kind of burner must of course be varied to suit conditions. The only objection to oil is so far the price and supply can not be depended upon. The most dependable fuel is coal and the most practical method of firing continuous kiln is with producer gas. The Northwestern Terra Cotta Company of Chicago is burning a tunnel kiln with oil.

IS IT FEASIBLE TO USE THE WASTE HEAT FROM CONTINUOUS KILNS?

**QUESTION:** We are seeking information regarding the taking of the waste heat from the continuous kiln; not a continuous kiln which is chambered, but one that is a con-

Statistics of Fuller's Earth in the United States.  
(In tons of 2,000 pounds.)

| Year | Production |           | Imports  |           | Year | Production |           | Imports  |           |
|------|------------|-----------|----------|-----------|------|------------|-----------|----------|-----------|
|      | Sh. Tons   | Value     | Sh. Tons | Value     |      | Sh. Tons   | Value     | Sh. Tons | Value     |
| 1905 | 25,745     | \$157,776 | 15,181   | \$105,997 | 1912 | 32,715     | \$305,522 | 19,109   | \$145,337 |
| 1906 | 28,000     | 237,950   | 14,827   | 108,696   | 1913 | 38,594     | 369,750   | 18,628   | 145,588   |
| 1907 | 34,039     | 323,275   | 14,648   | 122,221   | 1914 | 40,981     | 403,646   | 24,974   | 195,083   |
| 1908 | 30,517     | 270,685   | 12,279   | 93,413    | 1915 | 47,901     | 489,219   | 19,441   | 152,493   |
| 1909 | 29,561     | 289,000   | 12,752   | 101,151   | 1916 | 67,822     | 706,951   | 15,001   | 139,664   |
| 1910 | 30,857     | 277,293   | 16,857   | 132,545   | 1917 | 72,567     | 772,087   | 16,994   | 176,417   |
| 1911 | 34,668     | 335,350   | 18,224   | 143,594   | 1918 | 84,468     | 1,146,354 | 16,920   | 226,235   |

Fuller's Earth Imports and Entered for Consumption in the United States.

| Year | Unwrought or Unmanufactured |        |                             | Wrought or Manufactured |         |                             | —Total—                |         |                             |
|------|-----------------------------|--------|-----------------------------|-------------------------|---------|-----------------------------|------------------------|---------|-----------------------------|
|      | Quantity<br>(Sh. Tons)      | Value  | Average<br>Price<br>per Ton | Quantity<br>(Sh. Tons)  | Value   | Average<br>Price<br>per Ton | Quantity<br>(Sh. Tons) | Value   | Average<br>Price<br>Per Ton |
| 1909 | 1,802                       | 12,492 | \$6.93                      | 10,950                  | 88,659  | \$8.10                      | 12,752                 | 101,151 | \$7.93                      |
| 1910 | 2,160                       | 14,399 | 6.67                        | 14,427                  | 118,146 | 8.19                        | 16,857                 | 132,545 | 7.86                        |
| 1911 | 1,881                       | 10,877 | 5.78                        | 16,343                  | 132,717 | 8.12                        | 18,224                 | 143,594 | 7.88                        |
| 1912 | 1,970                       | 11,619 | 5.90                        | 17,139                  | 133,718 | 7.80                        | 19,109                 | 145,337 | 7.61                        |
| 1913 | 1,916                       | 12,344 | 6.44                        | 16,712                  | 133,657 | 8.00                        | 18,628                 | 146,001 | 7.84                        |
| 1914 | 1,468                       | 9,283  | 6.32                        | 23,509                  | 185,800 | 7.90                        | 24,977                 | 195,083 | 7.81                        |
| 1915 | 850                         | 5,176  | 6.09                        | 18,591                  | 147,317 | 7.92                        | 19,441                 | 152,493 | 7.84                        |
| 1916 | 1,132                       | 7,742  | 6.84                        | 15,669                  | 131,922 | 8.42                        | 16,801                 | 139,664 | 8.31                        |
| 1917 | 1,441                       | 11,718 | 8.13                        | 15,553                  | 164,699 | 10.58                       | 16,994                 | 176,417 | 10.38                       |
| 1918 | 1,083                       | 12,636 | 11.67                       | 15,837                  | 213,599 | 13.48                       | 16,920                 | 226,235 | 13.37                       |
| 1919 | 333                         | 4,301  | 12.92                       | 12,054                  | 185,410 | 15.40                       | 12,387                 | 189,711 | 15.32                       |

\* U. S. Geol. Surv. Press Bull.



tinuous kiln. Do you know where there are any such kilns operating, and do you know of any such kilns burning oil?

**Answer:** It is entirely feasible to use the waste heat from tunnel kilns. Normally there is a large quantity of pure, highly heated air, which has been used for cooling the ware, readily available for any heating or drying purpose. This is the case in practically any tunnel kiln, and its use will make this type of kiln even more economical than at present. Fuel oil is being used in tunnel kilns at a number of places quite successfully.

I would say that it is perfectly feasible to extract and utilize the waste heat from a tunnel kiln. A patent has been issued to an English inventor covering the design and operation of an auxiliary drying tunnel which draws its heat from the cooling zone of the tunnel kiln to which it is attached. There are a number of designs on the market providing for the recovery of waste heat, but in general they are based upon the principal of circulating a current of air either through the side walls or through the arch of the cooling zone, and in one or two instances both side walls and the arch are resorted to. I would therefore suggest

#### ROCKER SIDE AND END DUMPING CARS.

**O**F SPECIAL INTEREST to the clayworking trade in regard to the above is a bulletin issued recently by the Atlas Car & Manufacturing Company, Cleveland, Ohio. In the bulletin are illustrated and described the various types of cars manufactured by this well-known company.

Their rocker dump cars are being used extensively in the clay trade, the low sides and semi-dumping position greatly facilitating hand loading as well as machine loading. The car bodies, being perfectly balanced, are easily dumped (dumping clean, emptying material clear of frame and track). All parts are ruggedly built and frame and body reinforced and braced to insure the usual Atlas wear and service. Bronze or roller bearings, brakes and various forms of bumpers and couplers are furnished as desired. If the car is to be used on a factory floor without rails the wheels have flat tread to suit particular need.

The Atlas Car & Manufacturing Company manufactures a large line of hauling equipment, but of particular value to the clay product manufacturer are their storage battery loco-



A Train of Rocker Dump Cars Shown in Clay Pit Loaded with Steam Shovel and Hauled by Locomotive.

that you advise your correspondent that it is perfectly feasible to put the waste heat from a tunnel kiln to practical use either for the drying of green ware or for the heating of the works.

So far as the application of oil as a fuel for the tunnel kiln is concerned, this has also been demonstrated as being perfectly feasible and permits of more accurate control of temperature and flame conditions in the kiln than is possible with a direct coal fire. Some difficulty is at first encountered in the application of oil to the tunnel kiln by reason of the length of the combustion chamber which the average burner requires for the propagation of the flame and for the purpose of minimizing the destructive effect of an impinging flame, upon the refractory with which the combustion chamber is lined. Since silicon carbide refractories have come into more general use, the necessity for safe-guarding the refractory has been largely removed.

There are also certain burners available which permit of the introduction of the oil in a direction transverse to the axis of the kiln, thus permitting a uniformity of regulation of temperature and flame conditions comparing very favorably with those permitted either with illuminating or producer gas.

B. A. G.

motives, storage battery cars, electrically operated industrial cars, pushers, door handling machines, tracks, switches and turn tables. A copy of their latest bulletin will be mailed to you on receipt of request for same. Write the Atlas Car & Manufacturing Co., Cleveland, O., whose ad will be found on page 488.

#### NEW BRICK PLANT AT SUGAR CREEK, OHIO.

Excavation has been started at Sugar Creek, Ohio, for a new brick plant of which Edward Shepfer, J. M. Moomaw, George Moomaw and A. E. Moomaw are the promoters. The plant will be located northeast of the present Shepfer & Moomaw plant. It is planned to get the foundation in before cold weather so that the buildings can be put up early next spring. The plant will be equipped with a 65,000 daily capacity face brick machine, six 32-foot kilns of 95,000 brick capacity each, and a 100-foot 6-tunnel metallic radiation drier. Clay will be secured from the Shepfer & Moomaw farm, which supplies the present plant.

One way to make money talk—buy a talking machine.





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

#### Ceramic Student Appreciates The Clay-Worker.

Editor The Clay-Worker:

Enclosed find check for renewal of my subscription to The Clay-Worker. I am a student in ceramic engineering at the Ohio State University and find The Clay-Worker very interesting and helpful. The October number was of particular interest, and the ground plan of the Alliance Brick Company's plant appealed to me as one of the splendid features.

Very truly yours,  
RAYMOND T. GESLER.

#### Kentucky Brick Men to Attend N. B. M. A. Convention.

Editor The Clay-Worker:

I was somewhat surprised to learn that the annual meetings of the National associations are to meet separately this year. Have talked the matter over with some of the members of the Kentucky Association and they seem to think it is really better for the associations to meet separately for then each association will maintain its distinctive characteristics.

The arrangement as announced for a meeting of the National Brick Manufacturers' Association in Indianapolis the last week in January and of the Common Brick Association the first of the week following in St. Louis is a wise plan enabling those who desire to do so to make one trip covering both conventions as you have stated, and should insure a good attendance at both meetings.

It is the intention of Fred C. Klutey, president of the Kentucky Clay Products Association, to have a meeting here in Louisville January 23 or 24, which will permit the Kentucky brick men to go in a body from Louisville to Indianapolis, arriving in ample time to attend all the sessions of the N. B. M. A. None who were present at the convention in 1918 will willingly miss the coming event. So I predict a big crowd.

Yours truly,  
J. CROW TAYLOR,  
Secretary Kentucky Clay Products Assn.

#### Annual Meeting of the American Face Brick Association.

Editor The Clay-Worker:

At your request for advice by return mail, I beg to advise that we will not distribute the program of the annual meeting prior to the morning of the first day's session.

Our annual meeting will be held at the Hotel Green Brier, White Sulphur Springs, West Virginia, on November 30, December 1 and 2, 1921, and following precedent, there will be one formal session each day, with a consolidated division meeting on the afternoon of the second day. A program which promises to be even more interesting, and just as timely as that presented to our membership at the last annual meeting has been prepared and all face brick manufacturers will be cordially welcomed.

Special American plan rates have been obtained from the

Hotel and special arrangements for comfortable Pullman service have been made.

#### Indiana and Illinois Division to meet with N. B. M. A.

With respect to proposed meeting of the Indiana-Illinois Division of this Association at Indianapolis during the last week in January, wish to advise you that it was the sentiment of those present at the meeting recently held at Indianapolis at which your invitation was tendered, that a special meeting be tentatively anticipated during one of the days of week in question, but that exact date would not be determined until this division meets at Chicago during the fore part of January. As the usual meeting day for this division is Tuesday, in all probability, the 24th will be selected.

Yours respectfully,  
R. D. T. HOLLOWELL,  
Secretary-Treasurer.

#### Another Letter From Griff.

The following letter has just been received from Griff. (With apologies to Ring Lardner).

Dear Perk:

Well i am still here in Pittsburgh it raining all the time & when you take a vacation in a car to see the buties of nature it aint much fun to look at them from behind a water screen but i gues i could see as much that way as from behind this smoke screen that they have out here. So having nothing else to do, Mary, she has went to the movies, i take my pen in hand to tell you something i seen in Wilkinsburg, knowing as how you was interested in streets good bad & indifferent this being one of the good ones.

Anyways we was coming along on Penn Ave. there at a good rate, it being part of the Lincoln Highway when we seen one of them De Tour signs. Them signs sure does take the De-Light out of touring. So being some ahead of skedule i just thought i would watch them work a wile & maybe tell them something of what i thought of them for blocking the highway.

It was an old brick street that they was fixing. First they took up the old brick which was badly wore on account of it setting on a poor seat. Then they was filling up holes in the seat with stuff they called slag. It aint like any which i ever seen so i asked a colored gentleman which was maniulating a shovel and he says that was made rock. Now i ask why make rock with so much of it around the country just lying idel & doing nothing. So he says that slag was full of iron & made it tough & better so i let it go at that not wishing to argu to much with no colored engr.

Anyhow they rolled the slag stuff with a big steam roller until it was nice and smooth & then put on it a thin coat of fine slag to set the brick on wanting to let the poor down trodden brick have something soft to set on all its life. Then they put down the brick which i hear some fellow says was verticle fiber. That dont mean nothing to me but may be you has it in your categorry. Any how this brick was laid the rough side up which i thought was wrong & was going to tell them so but thought may be i better not as they might think i was buttin in. But i soon seen that i was wrong as usual, cauz they was soon putting on a lot of hot black asbestos & colored gentlemen with hot irons was rubbing it down into the intercides of the brick. So i steps up to the Boss, a guy named Sperling, introduced myself and says i knows you & makes myself friends for life & he tells me something i don't know yet. This asbestos covers the brick with a thin sheet, it sticking to the rough sides and it wouldnt have stuck to the smooth sides & as i said before into the intercedes of the brick (that is his word, not mine) & keeps it all from getting



wet & freezing up when it gets cold. On top of this they was sprinkling a little sand & farther up the street the teams was traveling on it & say Perk, it certainly did look slick, almost like an asbestos street, no noise & Charley, i calls him by his first name now, tells me it will last forever cauz the brick is so tough that wear dont afiect it none.

I says to Charley how much does this cost you and he says so far it averaged \$1.93 per sq. yd. which i thought was cheap for getting such a good road. So i say Perk, if you want to see a good street just come up to Wilkinsburg and if you want to know more i can give it to you straight.

That guy back home is going to get an earfull when i get there. I guess he will learn that all the good roads isnt in N. Y. City. Well Perk, Mary is come in now, so will have to close.

Yours,

GRIFF.

#### RICKETSON'S NEW MORTAR COLOR FINDS FAVOR.

The new and darker chocolate mortar color that has just been placed on the market by the Ricketson Mineral Paint Works, Milwaukee, seems to have caught the fancy of the trade generally. Sunderland Bros. Company, the largest building material house in Nebraska, have just written in, saying: "We have tried it out on our new marble plant and the contractor using this material pronounces it successful in every way." A large New England material concern has also written the Ricketson people saying that experiments with the new chocolate have proved entirely satisfactory.

#### CONVENTION DATES.

**November 30, December 1 and 2**—American Face Brick Association, Greenbrier Hotel, White Sulphur Springs, W. Va., Secretary, R. D. T. Hollowell, 110 S. Dearborn St., Chicago, Ill.

Face Brick Dealers Association of America, Greenbrier Hotel, White Sulphur Springs, W. Va., Morris W. Montgomery, Secretary, 6 North Michigan Ave., Chicago, Ill.

**December 13 and 14**—Eastern Paving Brick Manufacturers' Association, Hotel Pennsylvania, New York, N. Y., Secretary, Wm. C. Perkins, Lincoln Building, Philadelphia, Pa.

**December, 1921**—National Paving Brick Manufacturers' Association, Pittsburgh, Pa.. Secretary, Maurice Greenough, Engineers Building, Cleveland, Ohio.

**January 24, 1922**—Kentucky Clay Products Association, Louisville, Ky., Secretary, J. Crow Taylor, 642 South 40th St., Louisville, Ky.

**January 23 to 28, 1922**—National Brick Manufacturers' Association, Hotel Claypool, Indianapolis, Ind., Secretary, Theodore A. Randall, 211 Hudson St., Indianapolis, Ind.

Indiana and Illinois Division American Face Brick Association, Claypool Hotel, Indianapolis. H. L. Baldwin, Divisional Secretary, Chicago, Ill.

Indiana Drain Tile Association, Claypool Hotel, Indianapolis, Ind., Secretary James E. Randall, 211 Hudson St., Indianapolis, Ind.

**January 30, February 1 and 2, 1922**—Common Brick Manufacturers' Association, Hotel Statler, St. Louis, Mo. Secretary, Ralph P. Stoddard, Schofield Building, Cleveland, Ohio.

**February 27, 28, March 1 and 2**—American Ceramic Society, Hotel Statler, St. Louis, Mo. Secretary, Charles F. Binns, Alfred, N. Y.

**February, 1922**—Canadian National Clay Products Association, Toronto, Ontario. Secretary, Gordon C. Keith, 51 Wellington St., Toronto, Ontario.

Written for The Clay-Worker:

#### NEWS FROM DIXIE LAND.

**W**HILE THERE WAS a slight tinge of cold weather the first half of November, and several hard rains, construction work both in building, sewerage, public and private work goes forward in the Memphis territory almost as actively as in the spring and summer. A number of large brick apartment houses and residences are being completed. Some new store buildings and warehouses in which brick figure are starting. The Binghampton sewerage contract was let a few days ago, to St. Louis contractors.

The resumption of many industries is calling for a certain amount of fire brick, chimney work and the character of material used in such industries.

C. O. Pfeil and Geo. Awsumb, Memphis architects, have been certified with two other Tennessee firms who met the necessary requirements to enter the preliminary contest for adoption of plans for the state victory memorial and Capitol Annex Building at Nashville. The three Tennessee firms will compete with three outside architects for this work.

The Standard Brick Company, factory and office on the Hindman Ferry Road, Memphis, are manufacturing this season a line of Colonial red, brown matt and common brick.

The American Association of State Geologists on the occasion of their tenth and final day meeting, in Tennessee at Knoxville in October, went on a sight seeing trip to important points in upper East Tennessee. At Erwin the party was shown through the Felspar mill and pottery plant of the Clinchfield Products Company, the largest pottery south of the Ohio river, and the only one using all American mix for tableware. The raw material is entirely from Tennessee and North Carolina. The Embree Iron Company mine, south of Nolichucky river, was next visited.

Lewis Moss, of the Moss-DeVoy Brick Co., 82 South Front Street, and member of Jno. A. Denie and Sons, building materials, reports November trade city and country good, and prospects for a worth while activity into the winter, with fine prospects for 1922.

Memphians in general are taking much interest in the forthcoming meeting of the National Builders' Association, a large body to hold its convention at Hotel Chisca, Memphis, early in the new year.

D. F. Crouch, of the B. Mifflin Hood Brick Company's Memphis office, has returned from a trip to all of the company's plants located at Birmingham, Atlanta and Chattanooga. Mr. Crouch stated that the outlook for building operations in the remaining months of the present year and for 1922 is very bright, and that a great amount of construction work is in sight over the southern territory.

DIXIE.

#### BUILDING AGAINST FIRE.

THE PORTLAND CEMENT Association has issued a pamphlet printed in red ink, the declared purpose being to point out the need and advantages of fireproof building construction. It makes a plea for fireproofing specifically with concrete construction and centers a special drive on the building of fireproof school houses.

#### SCIENTIST MOVED FROM WASHINGTON TO COLUMBUS.

L. I. Shaw, Assistant Chief Chemist of the Department of Interior, Bureau of Mines, Washington, D. C., has been transferred to the Columbus (Ohio) station, where he will do physico-chemical research work for the Ceramic Experiment Station, U. S. Bureau of Mines. Mr. Shaw's experimenting along these lines eminently fits him for this work.



## PLEADS FOR CUT IN FREIGHT RATE FOR TILE.

THE OHIO drain Tile Manufacturers Association, through its attorney, B. W. Waltermire, filed a brief with the Ohio State Utilities Commission for use in the investigation being conducted by that body into the costs of transportation of farm products and materials used in agriculture.

It is declared in the brief that tile is an essential to agriculture, and by way of argument in support of desired reduction of freight charges by the commission's order, the statement of Professor Overholdt of Ohio State being cited in substantiation of the claim. Professor Overholdt testified before the commission that 2,000,000 acres of Ohio farm lands are in need of drainage, adding that without proper tiling farm lands receive no benefit from the use of agricultural limestone or fertilizer.

The experience of the Columbus Brick & Tile Company since the increased freight rates became effective in 1920 was cited, the brief declaring that shortly before the 1920 boost in rates the capacity of the plant was doubled and a million dollars invested in it, but that since the higher rates went into effect the plant has become idle.

According to J. L. Childs, Findlay, secretary-treasurer of the Hancock Brick & Tile Co., the peak price of his product was caused by advance in cost of coal, labor and freight, and that while coal and labor costs have come down, freight charges are still at the peak, thereby placing a serious handicap on the business. Because of the reduction in coal and labor costs, drain tile manufacturers have been able to reduce the cost of their product 40 per cent, Childs said, but because of the excessive freight costs the tile will not move.

He declared that unless he can get orders within three or four weeks his plant will be compelled to shut down. Drain tile is not moving at all at this time, save in small quantities to nearby purchasers, a statement substantiated by W. W. Lewis, North Baltimore tile manufacturer, who said his plant has been closed since August, and that the only orders he could fill are those which can be moved by wagon and truck.

Lewis said that before the 40 per cent increase in freight rates in August of 1920, his plant had more orders than could be filled, but that with the increase in rates, orders were cancelled instantaneously.

The cost of the raw material used in making tile is not to exceed 1 per cent, while labor is 50 per cent, freight 45 per cent and the remainder is charged up to coal. As tile plants are located immediately adjoining the clay used in the making of tile, there is no transportation cost in bringing it to the plant, but freight on coal used in burning the tile constitutes 15 per cent of the total cost, to which must be added freight and hauling the tile to buyers, amounting to 30 per cent, making a total freight cost of 45 per cent, the brief avers.

Ohio has 100 tile plants; forty-one of them are closed down at the present time, owing to high freight charges, according to Waltermire, while the others are running only part capacity.

Freight rates have increased from 100 to 120 percent in the past four years, while tile men have reduced the price of their product 40 per cent at the plants, in many instances producing at cost or an actual loss. In August, 1920, when the 40 per cent freight boost became effective, Ohio tile plants had to refuse orders because of the rush, but since the increase in freight charges became effective, orders have fallen off to an extent which has virtually prostrated the business, Waltermire declares.

Additional evidence concerning the alleged excessiveness of Ohio agricultural freight rates is to be uncovered by George J. Bolander, traffic manager of the Kalamazoo (Mich.) Chamber of Commerce, it has been announced by Director of Commerce W. H. Phipps, who has retained Mr. Bolander to begin an exhaustive investigation of the situation for presentation of a report to the state utilities commission this month.

## OFFICIAL ANNOUNCEMENT



### THIRTY-SIXTH ANNUAL CONVENTION TO BE HELD IN INDIANAPOLIS JANUARY 23 TO 28, 1922.

THE NATION'S CENTER, in and about which the great industrial interests teem with activity, is surely the ideal location for a great national convention. For this and other reasons the Executive Committee has decided to hold the Thirty-sixth Annual Convention of the National Brick Manufacturers' Association in Indianapolis the week of January 23, 1922. The Hoosier capital is "No mean city," as Presi-



The Claypool Hotel Headquarters.

dent Harrison said in one of his many memorable addresses, and his fellow townsmen have proudly used the appellation as a slogan ever since.

At the annual meeting, held in Indianapolis in 1918, many of the members complimented the local committee on the exceptional facilities afforded the delegates. At subsequent conventions frequent reference has been made to the success of the meeting in Indianapolis, on account of which the wish has been often expressed that we might meet there again.

#### The Most Get-at-able City.

The Hoosier capital has many advantages as a convention city. It is the greatest inland railroad center in the world. It is the most get-at-able city in the nation, being but a few miles from the actual center of population. From it radiate



many of the great trunk lines, affording fast through train in service to all of the leading cities, East, West, North and South. By the same token, those who wish to extend their trips to winter resorts may secure through sleeper service. Those desiring to attend the annual convention of the Common Brick Manufacturers' Association at St. Louis the following week can make one trip cover both meetings, and special Pullman service will be arranged for the trip from Indianapolis to St. Louis. Should any of the delegates so desire, they can make side trips on the way to St. Louis, stopping at Crawfordsville, Brazil and Terre Haute, Ind., and Danville, Ill., where there are great brick and tile plants which operate the year around.

**The Mayor-Elect Bids the Clayworkers of the Land to Come to Indianapolis.**

Theodore A. Randall,  
Secretary National Brick Manufacturers' Assn.,  
Indianapolis, Ind.

My Dear Randall:—

Many thanks for your congratulations on my election. It certainly was a remarkable landslide.

I am very glad to know the National Brick Manufacturers'



Samuel Lewis Shank, Mayor-Elect, Indianapolis.

Association is to hold its next annual convention here in our city the week of January 23. It will afford me real pleasure to greet and welcome the representatives of the clay crafts within our gates, both personally and officially as the city's chief executive, and to tell them if they do not get what they want while they are here they must blame you and nobody else.

All our modern buildings attest the fact that we appreciate the merits of brick, tile and terra cotta. We Indianapolis folks have fared a little better, I judge, in the building line than any other city in the country, so pass the word on to your fellows to come and see the progress we have made

of recent years and enjoy a real Hoosier welcome, which I promise they will get.

Yours cordially,  
(Signed) SAMUEL LEWIS SHANK.

November 10, 1921.

Mayor-Elect.

From every viewpoint Indianapolis is a very happy choice, and it is anticipated there will be a very large attendance. A real Hoosier welcome awaits every visitor.

As at the previous convention, headquarters will be at the Claypool Hotel, which is noted for its unexcelled facilities for convention functions. Its beautiful lobby, its great banquet hall, known as the Riley room, and its convention halls give it high rank for all business and social gatherings of whatever character. The clay crafts are now confronted with many serious problems, the solution of which requires the best thought and effort of all engaged in the industry. The chief aim and purpose of the N. B. M. A. is to encourage and promote improved methods of operation, thereby improving the character of the ware, the amount of the plant output and economy in operation. It is the one national organization through which this work may be accomplished properly, and every brick and tile manufacturer in the land will profit by attending the meetings and taking an active part in same. All sessions are open to the public.

Reduced railroad rates may be secured. If so, further notice and full particulars will be given in subsequent announcements. Those desiring further information relative to the program, which is now in course of preparation, the requisites of membership, or any other particulars, are requested to address the Secretary at Indianapolis.

THE EXECUTIVE COMMITTEE.

W. E. Dunwody, President.

Theodore A. Randall, Secretary.

**CANADIAN CLAYWORKERS TO MEET IN TORONTO IN FEBRUARY.**

THE INDEFATIGABLE SECRETARY of the Canadian National Clay Products Association writes they had intended to hold their annual convention the last week in January, but as that conflicts with the date set for the N. B. M. A. convention in Indianapolis, they have changed their date of meeting to February, exact date to be announced later. This is done in order to enable their members to attend the Indianapolis convention, and evinces the entente cordiale, which has always existed between the two National associations. That is the spirit which spells the largest measure of success for the clay craft in general. Secretary Keith further states the brickmakers of the U. S. A. are most earnestly invited to attend the Canadian convention in Toronto and that a most cordial welcome awaits each and every one who will do so.

**INVENTOR OF NEW GAS KILN ARRIVES FROM EUROPE AT INVITATION OF AMERICAN POTTERS.**

In response to an invitation sent to him by American potters, Arthur G. Shaw, of the Shaw Glaze Brick Company, Ltd., arrived in New York early in November from Glasgow, to demonstrate the value of his new gas kiln, which he says will revolutionize the making of ceramic products. Mr. Shaw says that the new kiln saved fuel to the extent of from 66 to 85 per cent. and labor to the extent of 30 per cent. Mr. Shaw was accompanied by P. Wylie Rodger of the Gartgraig Fire Clay Company and Walter Bakewell of the Cauldon Potteries, who are interested with him in the new invention.

We hear so many different sides of so many different questions these days that we can't find all the answers.



## EVER DREAM SOMETHING'S AFTER YOU AND YOU COULDN'T MOVE?

**M**AYBE WHEN YOU were a youngster you had that dream—that you were being chased by somebody or something—and you couldn't move a step! Your feet were like lead—you were rooted to the spot and there seemed no chance to get out of the way of what threatened you. On and on came the menace, nearer and nearer till at last—you woke up or some member of the family, disturbed by your efforts, aroused you.

That's the way it seems in the clayworking business some times. It appears that some handicap is chasing you and you don't seem to be able to lift your business feet fast enough to get out of its way. Sometimes the nightmare is a production problem, a question of sales or one of the many other hobgoblins that pop up in the clay industries.

Then along comes a copy of *The Clay-Worker* and wakes you up. Right in that issue you read how some other fellow has had the same experience as you—and has solved the problem. He tells how he reached the solution and you see right away that the same principles can be applied in your own concern.

Or perhaps in the advertising pages of *The Clay-Worker* you read a to-the-point message that a certain machine is doing the very thing that you want done—handling work more economically or turning out a superior product. And when you can do either of those things you can tackle the question of getting business with more assurance. In either case everything is soon all right again—the threatened danger does not overtake you.

Of course you solve some of your problems—but not all of them. So does the other fellow in the clay field—but he does not solve all of his. No one man can think of everything and so the profitable solutions must be exchanged. But few business men have the time to travel from plant to plant until they find the one that has solved their particular problems. Therefore *The Clay-Worker's* reading columns act as an efficient clearing house of the newest, best and most profitable methods in the industry.

But *The Clay-Worker's* advertisers, too, help in this. They must sell equipment that does work better if they are to profit. So they have been in the field studying the problems of clayworkers. When improved machinery is made as the result of this field work you are informed through the manufacturers' advertisements. Thus the regular coming of *The Clay-Worker* frequently serves to end the chase of some of the hobgoblins of the industry.

### MISSOURI HAPPENINGS.

With the enlargement of the Edwards Brick Company plant in Columbia, Mo., evidence is produced to show that economic conditions in the state are improving and also that the future should see the establishment of many more brick plants in this section of the state. The clay centers of Missouri are located on either side of Boone County. In Gasconade County fire clay and flint are found in great quantities. Large plants for the manufacture of these products are now established in this section of the state, notable among them being those at Fulton, Mexico, Farber and Wellsville. Shipments also are still being made to Kansas City and St. Louis, where it is baked into tile and bricks. Near Versailles, in Morgan County, is another large clay field, where the Water S. Dickey Company of Kansas City has a large plant. They derive much of the raw material for their Kansas City plant from this district.

The Wellsville Fire Brick Company, Wellsville, recently

added 25 men to its force at the local plant and now almost 100 men are employed and it is the belief of the management that it will be running at full capacity soon, there being an appreciable improvement in the number of orders received. Manager G. E. Kiger reports that business has been picking up gradually for the past two months and that he believes the depression that hit the trade is over. For several weeks the mines of the company were closed and only loaders and moulders had been employed. Even at that many carloads of fine brick products were shipped out, much of the surplus stock being disposed of. An average of ten carloads have been sent out during the past several weeks but this will be increased now as the force is enlarged and the business conditions improve. When the plant is running at full capacity 130 men are employed.

The factory of the Fulton Fire Brick Company, at Fulton, is running full capacity four and five days a week and is selling its product almost as fast as it makes it. Everything points to management being able to continue operations at the present capacity, Manager C. C. McNamee has announced. The plant has been operating four days one week and then five days the next. Business conditions are getting better but the resumption to normalcy is slow and it will be some time before the plant can run six days a week. A new molding machine is being tried out at the factory. It has been in use about two months but its use is still considered experimental. If it finally proves serviceable it will enable the factory to produce some of its products at a considerable saving. A. F. Becker, a mechanical engineer employed by the American Arch Company, which owns a controlling interest in the factory here, has been at the plant for two months, studying the conditions, with a view to increasing the efficiency of the factory. A few changes in the equipment and arrangement have been made under his direction and others are in contemplation. Nothing of a large consequence will be undertaken for some time.

M. O.

### BALTIMORE PLANT SUFFERS BAD FIRE LOSS.

One of the plants of the Baltimore Brick Company, of Baltimore, Md., was destroyed by fire October 26, including machine shops, power house and manufacturing department, and other buildings, together with considerable new machinery. Warren Griffiss, the manager of the company, estimates the loss at \$100,000.

### ONE SUGGESTION.

The girls ask what they shall do to prevent blushing. One good way would be to wear more clothes.—*Flint Journal*.

### THE PRIZE STORY.

"You seem to be working hard over that composition. Trying to write a prize thesis?"

"Trying to compose a letter to my father that will bring me \$10."—*Louisville Courier-Journal*.

### FACTS:

One step won't take you very far—

You've got to keep on walking.

One word won't tell folks who you are—

You've got to keep on talking.

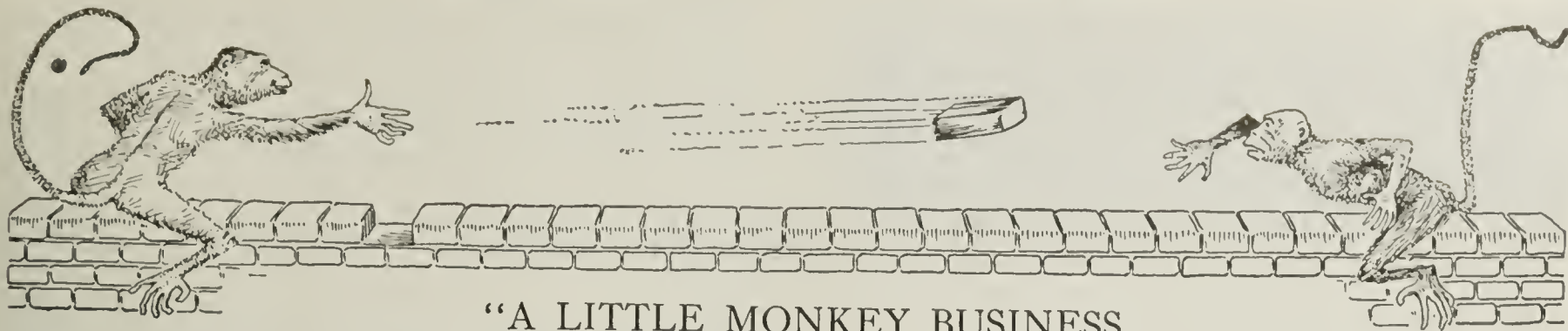
One inch won't make you very tall—

You've got to keep on growing.

One little ad won't do it all—

You've got to keep them going.





## "A LITTLE MONKEY BUSINESS NOW AND THEN IS RELISHED BY THE BEST OF MEN."

### The Old 'Un.

Pluck, my boy, pluck: that is the one essential to success in business.

The Young 'Un—Yes, of course, I know that. The trouble is to find someone to pluck.—London Opinion.

### The Ideal Life.

First Tramp—Duggins is the luckiest chap on the road.

Second Tramp—How's that?

"He's a somnambulist, an' does all his walkin' in his sleep. That leaves 'im all the day to rest in."—London Answers.

### Black Superstition.

Architect—Have you any suggestions for the study, Mr. Quickrich?

Quickrich—Only that it must be brown. Great thinkers, I understand, are generally found in a brown study.—Toronto Telegram.

### Looking Backward.

"How did you get that scar?"

"I got that jumping through a plate-glass window in London on armistice night."

"What on earth did you do that for?"

"Oh, I don't know. It seemed a good idea at the time."—Tit-Bits.

### IN SELF DEFENSE.

His Wife (fondly): Look, John, I came across a lot of your old love letters today.

Himself: For goodness sake lock them up so the children can't find them! They haven't too much respect for me as it is.—Life.

### PURE CARELESSNESS.

It was visiting day at the jail and the uplifters were on deck.

"My good man," said one kindly lady, "I hope that since you have come here you have had time for meditation and have decided to correct your faults."

"I have that, mum," replied the prisoner in heartfelt tones. "Believe me, the next job I pull, this baby wears gloves."—American Legion Weekly.

### IT CURED HER.

Not a hundred miles from Folkestone a few months ago, a wife lay very ill. Having brought up a clever orphan girl, the sick woman called the young woman to her and said:

"I shall soon leave my little children motherless. They

know you and love you, and after I am gone I want you and my husband to marry."

The young woman, bursting into tears, said:

"We were just talking about that."

The wife recovered.—Edinburgh Scotsman.

### BUSINESS RELATIONS.

"I wish you would send some one else to talk with this man about this deal," said the head salesman to the president.

"What's the idea? This is an important matter and you are supposed to take care of it."

"I know, but it will be terribly embarrassing to both of us. You see this man is the former husband of my present wife."—Detroit Free Press.

### A WORD TO THE WISE.

A young psychologist stepped up to the Salvation Army man who was playing a hurdy-gurdy and said: "Look here. You notice that people passing by tend to keep in step with the music. Now, if you'll change that quick time tune of yours to a slow march I'll guarantee you to get more people stopping here and contributing to your collection." That said, the psychologist confidently continued on his way.—New York Evening Post.

### BLIND.

Daughter: He's frightfully attractive, I think.

Mother: I can't see it.

Daughter: Good Heavens, do you mean to say you can't see that big yellow car?—The Passing Show (London).

### COMPLYING LITERALLY.

Going into his stable one day, he found his little son, with a slate and pencil in his hand, astride one of the horses. "Why, Harry," he exclaimed, "what are ye doing?"

"Writing a composition," was the reply.

"Well, why don't you write it in the house?" asked the father.

"Because," answered the little fellow, "the master told me to write a composition on a horse."—Rutland Herald.

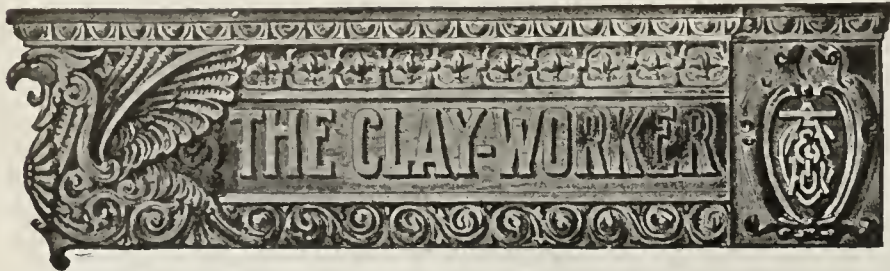
### THE MOST IMPORTANT ITEM.

Mother (socially inclined): My dear, I have picked out a husband for you.

Daughter: Very well, but I tell you emphatically that when it comes to buying the wedding dress, I'll select the material myself.—Weekly Telegraph (London).

A magazine writer says very few poets are blonds. This is probably due to the fact that poets are born, and not made. Detroit Free Press.





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A Practical Illustrated Monthly Magazine, devoted to Brickmaking and allied Clayworking Arts and Industries.

Title registered, contents copyrighted.

THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

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ADVERTISING RATES

Furnished on application. The CLAY-WORKER is unquestionably the most effective medium in its field, and character and circulation considered it is the cheapest. To insure insertion in current issue, advertising matter should be sent to office of publication on, or before the first of the month.

Correspondence on all subjects of interest to Clayworkers solicited. All communications should be addressed to  
211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 76. November, 1921. No. 5.

CURRENT COMMENT.

It's the thirty-sixth Annual.

\* \* \*

The date is January 23-28-1922.

\* \* \*

The place is the Claypool Hotel in Indianapolis.

\* \* \*

And it is the gathering of the National Brick Manufacturers' Association clans from all parts of the country.

\* \* \*

That jobless army dwindled in size some when asked to register and be measured for jobs, but there are still many to be fitted out.

\* \* \*

Here's a newspaper headline says: "A plan to give each man a job to fit his brains." But what are you going to do with the fellow that ain't got any?

\* \* \*

No matter just what the size of the population, Indianapolis is the big city nearest its center, therefore the logical gathering place for the Clay clans this winter.

\* \* \*

The time is here now for the drain tile folks to get busy with the farm trade and to preach the doctrine that tile drainage adds value to land and quantity to crops.

\* \* \*

The convention season for the retail lumber folks is now on and it will pay those making wide distribution of their products to cultivate the acquaintance of these dealers who are now awakening to the realization that they should carry a full line of building material and that in the future this line will be made up of a larger percentage of clay products.

One of the best signs of the times is in the promise that railway freight rates are to be reduced.

\* \* \*

It may sound a bit like irony, but the German mark has been reduced to almost a scrap of paper.

\* \* \*

Our population charts show that the down-east folks may be crowded a little, but there is still plenty of room to grow out west.

\* \* \*

An American dollar is worth a dollar ten in Canadian money, but we hear that a Canadian quart is worth ten dollars in our money.

\* \* \*

That Ford railroad is getting almost as much free publicity as the tin Lizzie, and like the Lizzie, it seems to be doing the business, too.

\* \* \*

It is said that a Dr. Craft is going to put the Sun in Sunday. Now if somebody will put the Mon in Monday there will be more pay in payday.

\* \* \*

Every N. B. M. A. meeting held in Indianapolis heretofore has been a good one, and now let us make that one scheduled for January 23-28 the best yet.

\* \* \*

Good management consists largely in knowing about your business, and being able to impart that knowledge to others so that they can use it. Attend the National Convention.

\* \* \*

We are back to dollar wheat again, a thing the farmer used to think spelled prosperity, but now thinks it spells calamity. It really means that we have plenty of eats once more.

\* \* \*

The hollow building tile folks are gradually coming to realize that they have face feature possibilities as well as structural qualities in their product and we are likely to hear and see a lot more of this in the near future.

\* \* \*

Wherever there is a burdensome accumulation of brick on the yards these days, it usually means they are common brick, not face stock. The logical answer is better burning that we may have less common and a larger percentage of faces.

WINTER BUILDING.

There are several things which make favorable conditions for more than the usual amount of building operations this winter. First, we have the drive to cure unemployment and waste therefrom by putting the building industry on an all-the-year basis. Next comes the need for housing and the fact that building operations are behind the logical schedule. Then to help the cause still more we have easier money conditions developing with lower cost and a more favorable situation generally for active building. Therefore, unless there is unusually severe winter weather the chances are decidedly in favor of more than the usual amount of winter building and more than the usual volume of demand for brick and hollow tile during the winter months.

SELLING BRIGHT IDEAS.

Even those who have really good and bright ideas for the upbuilding of trade and industry now have a hard time selling the people on these ideas. This is because we are going through the reaction from the wild orgy of entering in bright ideas and new theories. There was a happy period



following the war when almost anybody could sell almost anything and those engaged in the making of ideas of special service or information like those selling merchandise and wildcat stock were reaping a harvest. Now most everything in the way of a bright idea falls flat. People have reached the point where they want to be shown and where they incline more toward the hard-headed practical than the bright theoretical. Those in charge of association work and those with special service to sell will do well to bear this in mind. The world is over sold and is on a buyers' strike in the matter of wildcat ideas, and new things of this kind must prove their worth to get any encouraging attention.

#### COUNTING OUR BLESSINGS.

Once a year we set aside a day for Thanksgiving. This year the day designated is Thursday, November 24. On this day we give special thanks for the harvest of the year in good things and especially for the food with which to sustain life. And as this annual occasion of counting our blessings in the form of food stuff rolls around, we find that not only has this country a great abundance of all kinds of food, but it is busy supplying quite a large part of the balance of the earth with food to prevent famine. No rational man can contemplate this situation without feeling profoundly thankful for this country, its institutions and its natural blessings. We not only have a great corn crop and a 50 percent surplus of wheat for export, but in most all other products of the soil we have an abundance and a liberal quantity over to sell and to give to others throughout the world who are less fortunate in the matter of food supply. As one reviewer of the world's food prospects for the winter says, North America with its supplies of coarse grains can still feed the world until another harvest. Let us count up our many blessings that we may be duly thankful.

#### WAITING ON A MOSES.

Our financial and business authorities are now beginning to realize that the needs of the day do not call for a special Moses simply because no one man is or can be big enough to handle the problem. It is another case like that of the great war, where there was too much and too many things involved for any individual man to stand out conspicuously as a world leader. The situation of business and finance is one which calls for efforts by the multitude for that same thing which makes good in any industry all around us any day, is tact, talent and hard work. As one writer puts it, this is the day for leadership of principles rather than of individuals and that is the thing for us to rely upon. Right principles and fair relationship toward each other which recognizes mutual interdependence, then a buckling down to hard work and good cooperation. This will solve the problems of the day and put the wheels of industry humming again as they should be.

#### HOW THE TIMBER IS DISAPPEARING.

A headline statement in a lumber journal says that we are now cutting timber five times faster than it is grown. Let this statement soak in and think it over a while. Think what it means to the clayworking industry in the future. It means that we are fast approaching the time when it will be almost sinful to use our wood for wall construction of almost any kind.

It means in short that the homes in the future as well as the more pretentious structures will be built of hard building material and should be built in the main of clay products. If the lumber folks themselves give voice to the statement

that we are using our timber five times as fast as it is growing, it is certainly time for the clayworking industry to bestir itself that we may conserve enough of our forests to meet our future needs by getting busy early at boosting building brick and hollow tile.

#### ROAD TESTS AND PAVING BRICK.

The testing and studying of roads and the charting of the wear and tear keep centering attention upon what constitutes the best form of road surfacing.

Good paving brick has made a splendid record in road work and there is a big future before it, the bigness of which depends upon how closely the brick manufacturers can keep in touch with those who have charge of road specifications.

The paving brick manufacturers should encourage road builders to come to their plants and study paving brick in the making as well as experiment with it in use. They have been doing some of this and it is good work. Let us have more of it, because the more the road builders know about paving brick the better are the chances for a wider use of paving brick and a better class of highways through the country.

#### STRUCTURAL SLATE SERVICE.

D. Knickerbocker Boyd, Architectural Adviser of the Structural Service Bureau, Estey Building, Philadelphia, Pa., has prepared and distributed Chapters 6-7-8 for the Structural Slate Co. of Pen Argyl, Pennsylvania. There had previously been issued some interesting chapters on the use of Structural Slate, and the three new offerings are additions to this series.

Number 6 deals with urinal stalls, Number 7, shower stalls, and Number 8, laundry tubs, sinks and sink tops. In each case there are charts and detail specifications which should prove valuable for reference both to architects and to builders as well as furnish a standard to work to for the slate industry itself.

#### DEPRECIATION.

The Fabricated Production Department of the Chamber of Commerce of the United States has issued a pamphlet on the subject of depreciation which will be received with more than usual interest now because we are reaching the time when annual inventories must be figured out and in which depreciation plays an important part. This pamphlet is a little different in that it emphasizes the need of charging depreciation in every day's cost. In their words it hooks up depreciation with actual daily production and presents it from a viewpoint which is interesting if not entirely new.

The pamphlet is gotten out by M. C. McCullough, manager of the Fabricated Production Department, Chamber of Commerce, Washington, D. C.

#### A. S. T. M. TENTATIVE STANDARDS.

We are in receipt of a copy of the 1921 edition of the tentative standards of the American Society for Testing Materials. This volume, which is issued annually, has just come off the press and contains 518 pages, in which are shown 127 tentative standards including those on cement, lime, gypsum and clay products. It should be remembered that tentative standards as distinguished from standards is a term which applies to proposed standards which are printed for one or more years with a view to eliciting criticism and



suggestions, which in turn will be reviewed before setting up the final permanent standard. The tentative standards of this organization are reorganized as authoritative and they are mighty good things to have on hand for reference. Copies of this work are available at the price of \$5 in paper and \$6 in cloth binding, from the American Society for Testing Materials, 1315 Spruce street, Philadelphia.

NEW COMPANY TO MANUFACTURE ABRASIVE PRODUCTS.

Mr. J. W. Tichnor, A. P. Tichnor and W. E. Hawkins of 30 Church street, New York City, are at the head of a new company recently organized under State laws to manufacture and deal in abrasive products. The new company is to be known as the Abrasive Sales Corporation, New York.

BUILDING PROSPECTS BRIGHT IN OAKLAND.

On account of reductions in prices of building materials, particularly in sand, gravel, rock, plumbing and brick, the Chamber of Commerce of the city of Oakland, across the bay from San Francisco, reported recently that the building program had increased about \$14,000,000. Some of these reductions were brought about by efforts made by the Industrial Relations Board. It is the intention of the Board to invite the producers to a conference in the near future when the matter of further reduction in prices will be discussed. The shortage of dwelling houses in the bay cities is acute, as it is in many sections of the United States, and in most cases shortage is believed to be due to the fact that people refuse to pay the high prices demanded by producers, jobbers and labor.

DRAINAGE OF LAND.

Does it pay? Most emphatically, it does. Look at the experience of all the countries of Europe these last hundred years. The amount of drainage carried on in Great Britain, France and Holland is enormous, and in Great Britain it is done chiefly by tenants or occupiers of land under lease. In Scotland and England, fully one-fourth the drainage has been effected at the sole expense of tenants (not owners) of soil, and perhaps one-half of such operations at the joint expense of owners and occupiers. Ask the occupier of highly rented land (paying from \$15 to \$30 per annum per acre) if it pays to put such expense in drainage, and he will invariably show you that were it not for good drainage he could not contract to pay such large rents. Sometimes the tenant undertakes to pay the whole money borrowed to do the drainage, with legal interest half yearly added on money so advanced, so satisfied is he that he gains far more by increased value of crops than he pays for drainage work.

Such is the belief on the other side of the Atlantic in thorough drainage of land, that you see even large outfalls made by tunneling under rivers to obtain a proper level to drain farming land. During the last fifty years all well managed farms have been more or less tile drained. In Holland, so enterprising and energetic have the land owners been that especially extensive drainage works have been carried out to reclaim land that is under the sea level at high tide. There, some of the richest pasture land is embanked from the sea, and inside and at the foot of these embankments are cut large canals, or water courses, for the retention of surface water of the adjacent lands till the sea ebbs to such a point that they can be emptied. The bottom of these canals are below low water (sea) mark, and to empty them, large engines and pumps are required to raise the water from the canal and dis-

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charge it into the sea at and near low water. It is on this once submerged, but now reclaimed, land that we obtain the famous milk, butter and beef breed of cows called Holsteins. And yet with all this expenditure of capital to keep back the sea and retain so much water from the enclosed land in these canals, the Dutch consider that the investment has paid well. Here in the United States we have no such depressed land below sea level, and no great embankments to keep out encroachments of the sea are needed. Ours is for the most part simply getting rid of ordinary undercurrents of water, and the surplus of surface moisture in times of rainfall.

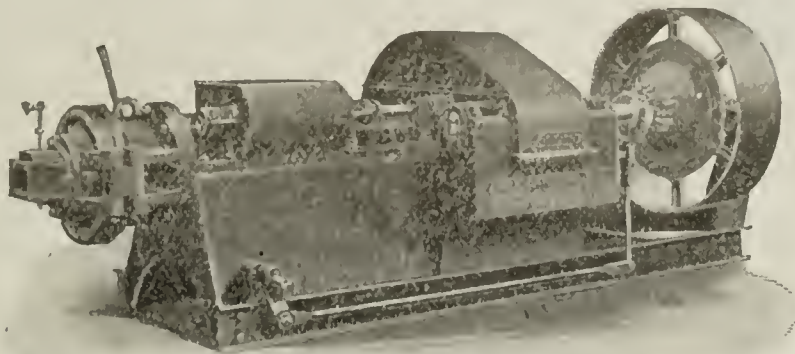
Land that is thoroughly drained produces a finer grade, as well as a greater quantity of wheat and other farm crops. It yields also finer and much superior grasses, and carries consequently, more and more heavier cattle. For all uses that the farmer wants land, drained land is much superior to undrained. When drained, cold, subterraneous surplus waters are removed, air and heat are promoted that facilitate the growth of all plants, crops ripen better and mature faster, and in certain seasons crops that would not ripen at all are fully developed.



# The HADFIELD-PENFIELD STEEL CO.

BUCYRUS OHIO, U.S.A.

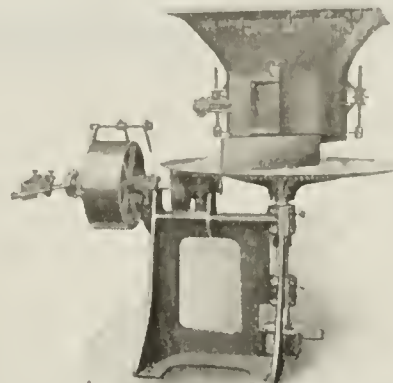
THE AMERICAN NO. 290 AUGER MACHINE.



Massive, Strong, Efficient. It is designed and built for satisfactory service. Large capacity. Get specification Sheet.

THE HADFIELD-PENFIELD STEEL CO., BUCYRUS, OHIO.  
Formerly the American Clay Machinery Co.

AMERICAN NO. 339 DISC FEEDER



This Disc Feeder will insure a perfectly even flow of clay to the pug mill.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

AMERICAN NO. 539 CRUSHER



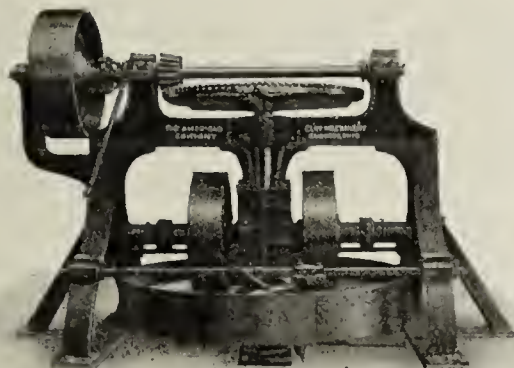
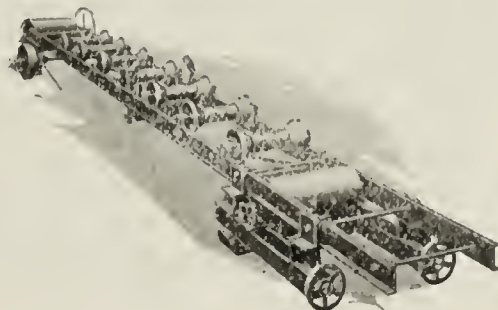
This crusher is backed by a quality which will guarantee performance. A circular describing and illustrating it will be sent on request.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

AMERICAN STYLE "A" CONVEYOR

A structural steel conveyor. Supplied in widths from 18 to 24 inches. Conical wood rolls run in dust proof bearings. Adjustable spider pulleys. No clogging clay. Get price. Give length and width desired.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.



"BUILT RIGHT, RUN RIGHT"  
AMERICAN DRY PAN

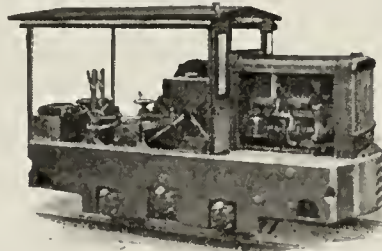
American Dry Pans are noted for quality and capacity. Let us tell you the whole story. Get specification sheets.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

"BUILT RIGHT, RUN RIGHT"

AMERICAN GASOLINE LOCOMOTIVE

Cheap, reliable haulage for clay pit and plant.



THE HADFIELD-PENFIELD STEEL CO.,  
Bucyrus, Ohio.

THE HAIGH KILN.

The Haigh Kiln Saves Half the Coal, Saves Half the Labor.



THE HADFIELD-PENFIELD STEEL CO.,  
Bucyrus, Ohio.



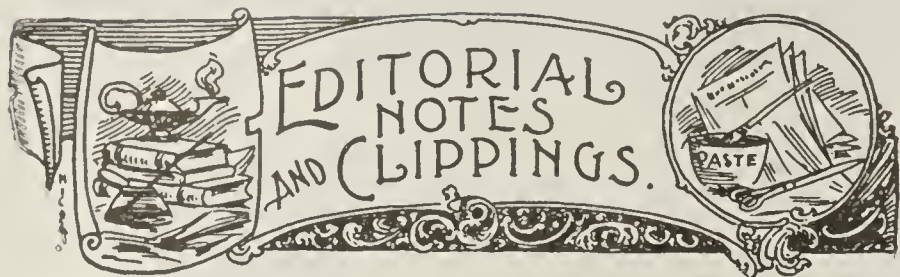
American No. 304 Pug Mill

Here's a mill that is light on power. Is built heavy for big capacity and thorough pugging. Get our pug mill circular.

THE HADFIELD-PENFIELD STEEL CO.  
Formerly  
The American Clay Mchy. Co.,  
Bucyrus, Ohio.

The HADFIELD-PENFIELD STEEL CO.  
BUCYRUS OHIO, U.S.A.





R. W. Johnson, 732 Westover Ave., Norfolk, Va., is in the market for brick machinery.

The Clay Workers Service Co., Cleveland, Ohio, has increased its capital stock from \$50,000 to \$100,000.

The Fort Smith Brick Company of Ft. Smith, Ark., has resumed operations after being closed down for some time.

The plant of the Table Rock (Neb.) Brick Company recently secured the contract for hollow tile for the Polk County courthouse at Osceola, Neb.

A. S. Reid & Co., Inc., announce the removal of their offices from the Morris Building to 1615 Spruce Street, Philadelphia, Pa. The company is now in up-to-date offices and is in a better position to serve their many patrons.

The Woodtown Press Brick Co., of Camden, N. J., has been granted a charter to manufacture brick. The company which is capitalized at \$150,000, was organized by T. A. Hansell, J. C. Clow and John A. MacPeak, all of Camden.

The Big Savage Fire Brick Company, Frostburg, Md., has commenced the erection of a new dryer plant at its works and will follow this structure with other plant buildings of various sizes. The extensions are estimated to cost about \$85,000. D. A. Benson is manager.

Mr. I. E. Burkett, manager and chief engineer of Schofield-Burkett Construction Company of Macon, Georgia, was recently injured, while on a visit to Philadelphia, Pa. He was struck by a street car. At last reports, he was improving and expected to return to his home in Macon at an early date.

Frank Echols, secretary and assistant general manager of Stevens Brothers, pottery manufacturers at Stevens Pottery, Ga., was killed October 16 when the automobile which he was driving, skidded and turned over an embankment. Mr. Echols was twenty-five years old and served as a lieutenant in the world war.

The Ashland Fire Brick Company, Ashland, Ky., has issued four finely prepared bulletins, respectively, No. 101, relating to fire brick for boiler settings; No. 102, to fire brick for rotary cement kilns; No. 103, to fire brick for oil burning furnaces, and No. 107, to fire brick for glass furnaces. All of these publications are illustrated and contain valuable information. Copies will be sent on request.

John F. Wood of East Liverpool, O., was elected president of the National Brotherhood of Operative Potters by the executive board. He succeeds Edward Menge who held the office for 10 years and was forced to resign because of continued ill health. John McGillvary of East Liverpool was named secretary-treasurer, succeeding Mr. Wood in this position. G. A. Harrison, also of East Liverpool, was named seventh vice president.

Announcement has been made of the formation of the Akron (Ohio) Brick Exchange under the proprietorship of Walter Akers, through which four of the largest brick plants in that city are marketing their product. The participating members are the Duro Brick Company, the L. W. Camp Company, the Windsor Brick Company and the Colonial Brick Company, whose total output is estimated at more than 3,000,000 brick a month. The coming season is characterized as having excellent prospects for the brick trade here, since a general survey of public and private construction work now

planned will mean capacity production for all the brick plants in the vicinity.

The Gwynedd Valley Clay Products Co., manufacturers of fireproof hollow tile, fire brick, etc., has been incorporated at Philadelphia, Pa., with \$125,000 capital stock.

The plant of the National Fire Brick Company at New Philadelphia, Ohio, which has been idle since August 1, resumed operations November 1 with a full force of men at work.

Following an idleness of about four months, the Uhrichville (Ohio) plant of the American Sewer Pipe Company resumed operations the latter part of October, with prospects for a long, steady run.

The Atlas Clay Products Company, of Atlas, Mich., has been incorporated with \$30,000 capital stock. F. E. and M. B. Goodrich, 1090 Sheridan Ave., Detroit, and W. T. Shonk, of Redford, Mich., are interested in the project.

The Sierra Clay Products Co., Sparks, Nev., H. O. Lague, president, has acquired property in the Truckee River canyon, near Vista, Cal., for the erection of a new plant to manufacture brick, tile, etc. It is estimated to cost in excess of \$75,000.

The Mt. Jewett Fire Clay Co., Mt. Jewett, Pa., has filed articles of incorporation. The company will mine fire clay and shale and manufacture both building and fire brick. Joseph E., R. G. and John C. Vogel, Ed. M. O'Neill and George A. Cypher, Jr., are interested.

The Patuxent Clay Products Co., 206 Water Street, Baltimore, Md., recently organized at \$1,000,000 has plans for the erection of a plant for the manufacture of hollow tile and kindred products, to cost \$150,000, with machinery. The company is headed by Harry N. Hanna and Herbert W. Holmes, 32 South Calvert Street.

R. D. Lindsay, superintendent of the Denver Pressed Brick Company, Denver, Colo., writes that business is very good with his company at present, and the prospects are that next season will be very much better. They are increasing their force accordingly in preparation for the increased business.

The Moscow Fire Brick & Clay Products Co., Moscow, Idaho, recently booked an order for their special face brick for the exterior walls of the new addition to a large hospital in Spokane, Wash. The order calls for twelve car loads of brick to be delivered shortly after the first of the new year.

The Western Brick & Supply Co. of Hastings, Neb., has had a very good season. The company has two plants at Hastings, one at Nebraska City and a fourth at Holdrege, Neb., and manufactures hollow tile as well as brick, which is shipped not only to Nebraska points, but as well to Kansas, Colorado, Wyoming, South Dakota and Iowa. C. B. Hutton is president and C. J. Evans is secretary-treasurer.

Improvements costing several thousand dollars are being made at the plant of the Hammond (W. Va.) Fire Brick Company under the supervision of the manager, Thomas I. Brett. The dryer is being changed to steam, and the boilers are being equipped with mechanical stokers. A steam equipment is to be used for loading the fire clay and bringing the clay cars from bank to plant, and a coal bin with a capacity of three railroad cars of coal is being built with appliances for unloading.

The new plant of the Metropolis Paving Brick Company at Pittsburg, Kansas, which has been under construction for nearly two years, turned out the first brick October 19. M. M. Bushong, president and general manager of the company, states that the capacity of the plant when in full operation will be 25,000,000 brick a year. They have an inexhaustible supply of shale which is dug by steam shovel. No expense



has been spared to make the plant complete in every detail, and Mr. Bushong considers the plant one of the very best in the country.

The annual convention of the United States Potters' Association is to be held in Washington during the week of December 5th. It is proposed to hold a three-day session.

The Riverside Brick & Tile Co., Knoxville, Tenn., has been incorporated with a capital of \$40,000 by R. P. Black, B. C. Ogle and J. W. Dooly, Knoxville, to manufacture brick, tile, etc.

The W. S. George Pottery Co., at Meadow Lane, Pa., is reported as producing its regular output. The Canonburg Pottery Co., in the same city, is operating its plant at normal capacity. This company manufactures pottery specialties and terra cotta products.

Howard Trammell and associates of Anniston, Ala., are interested in the erection of a large plant at Maxwellborn, near that city, for the manufacture of building brick. A company is being organized. Shipping facilities at that point are very good, and there is an excellent deposit of shale which has been tested with good results.

The Carpinteria Clay Products Company, Carpinteria, near Santa Barbara, Cal., recently organized at \$150,000, has arranged for the establishment of a local plant for the manufacture of bricks and other burned clay products. The initial equipment installation will be for brick production, with other machinery to be installed later for the manufacture of tile, etc. The company is headed by Lyman T. Gage and B. C. Sutton.

The Georgia Brick Manufacturers' Association have joined with other manufacturers in fighting the proposed freight rate increase in Georgia. The railroads have filed a request with the Georgia Railway Commission. In some instances it is

claimed the new rates are double the amount in force at present. Data is at present being collected to be presented to the commission when the case comes up for final hearing.

The Diamonite Co., Brooklyn, has been incorporated at \$100,000 by W. W. Weese, G. L. Pinkham and W. G. Bushnell, 67 Wall street, New York, to manufacture fire brick and other refractory products.

The Lovell Tile Co., at Lovell, Wyo., is running its plant to capacity these days on a contract amounting to about 150 carloads sewer tile for Cheyenne. The tile are of the fifteen inch size and are salt glazed. The company manufactures a glazed hollow tile which has found much favor in the building of silos.

It has been reported that the Glen-Gery State Brick Co., at Reading, Pa., has been running full capacity all the year at their two plants. This company manufactures both face and common brick. The demand for the latter kind of brick has been slow, while face brick has had a good demand both in the New York and Boston markets.

The plant of the Freeport Brick Company, Freeport, Pa., which was partly destroyed by fire last month, is to be rebuilt at once. The total loss was estimated at \$80,000, on which there was \$30,000 insurance. O. O. Camp of Tarentum, Pa., is president of the company and J. H. Oppenheimer of the same place, secretary-treasurer. Preliminary steps toward building of a modern fireproof plant have already been taken.

#### ALTON PLANT BUSY ON OMAHA JOB.

The Alton Brick Company's plant at Alton, Ill., is operating full time. At present they are busy filling an order calling for something like a million brick for a big job at Omaha, Neb., shipping on an average of four cars per day.

## 75 Kinds of Material now screened thru HUM-MER *Electric* Screens

MANUFACTURERS producing 75 different kinds of material are now using HUM-MER Electric Screens in place of other types of screening equipment—

*because* the HUM-MER screens at less cost per ton

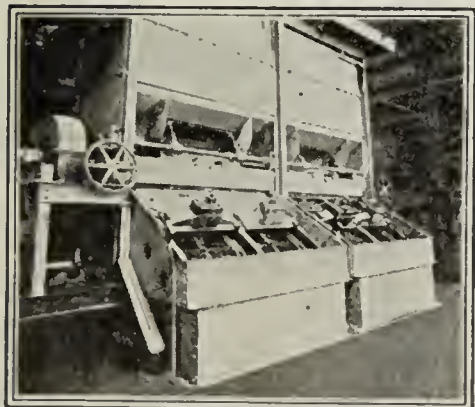
*because* the HUM-MER produces a better quality of finished product

*because* the HUM-MER screens faster and handles much larger tonnages.

You can obtain these advantages by installing the HUM-MER.

Write us about your material and requirements, and we will give you full information as to the results you could expect from the HUM-MER, as well as tell you the results others have obtained.

*Catalogue No. 42-W describing this modern "electric" screen in detail sent upon request*



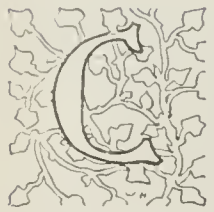
HUM-MER Electric Screens  
in large Copper Mill

**THE W. S. TYLER COMPANY, Cleveland, O.**  
Manufacturers of Woven Wire Screens and Screening Equipment



Written for THE CLAY-WORKER.

## PACIFIC COAST NEWS.



ALIFORNIA IS MUCH more fortunate than many other states in meeting her problem of unemployment, for the mildness of the climate even in sections north of the bay district permits building operations to proceed throughout the winter. California is not burdened by an oppressive coal problem, nor are the less fortunate members of society exposed to suffering attendant upon severe cold. Moreover, the State Board of Control announced recently that a construction program amounting to \$6,000,000 for public works during the coming winter and spring will provide work for about 50,000 men. When the program is approved by Governor Stephens it will be the largest schedule of its kind undertaken within recent years. The department of public works expects to expend more than one million dollars alone in wages. One of the most extensive projects will be the construction of the capitol annex at a cost of \$3,000,000. This work will be started about January first. More than 30 other important buildings will be constructed under the program, and this work will commence in December. The buildings will consist of hospitals, dormitories, school buildings, laboratories and offices for various state institutions.

The handsome new Alexander building, located at Bush and Montgomery streets, is almost completed. The exterior is of buff pressed brick manufactured by the California Brick Company at the plant at Livermore, and the same material is used on all four sides of the fifteen-story building.

N. Clark & Sons have closed contracts for the terra cotta for the H. C. Capwell & Company's new four-story department store and office building in Oakland which is to be

erected at Broadway and Fifteenth streets. The investment is about \$200,000.

During the second week of October the Merced plant of the California Pottery Co. started operations with four kilns, the first unit of 16 to be completed. A force of about 30 men is employed at the beginning and this will be increased with the expansion of the plant. The first order from the new plant was for hollow tile for the \$30,000 home of J. H. Simonson of Merced. Frank Costello, president of the company, his family and several people prominent in the brick and tile industry were present at the opening of the plant. Howard Frost, president of the Los Angeles Pressed Brick Co., stated that he expected the Merced plant to have a great future in Northern California. P. Mehan, a well-known ceramic engineer, is superintendent of production.

Articles of incorporation of the S. P. Brick and Tile Company have been filed. The company is incorporated to do a general business, with its principal place of business at Fresno. The capital stock is \$250,000, divided into 250,000 shares of \$1 each. The directors are as follows: H. W. Shields, Fresno; W. D. Trehwitt, Hanford; and L. E. Hayes, Exeter.

The housing situation in general in the bay region appears to be easing up a little, although there is still a distinct shortage and rents are still very high. A good many small homes are being built in Oakland and Berkeley, while a number of apartment houses are going forward in San Francisco. On account of San Francisco's physical situation—surrounded on two sides by the sea and backed up against very high hills—apartment house dwelling is the only way out, and consequently apartment houses prevail. The interest in hollow building tile continues in the bay cities, and there is a

(Continued on Page 490.)

## UNLOADING FOR 3 CENTS PER TON



Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.

The Columbus Conveyor Co., Columbus, O.

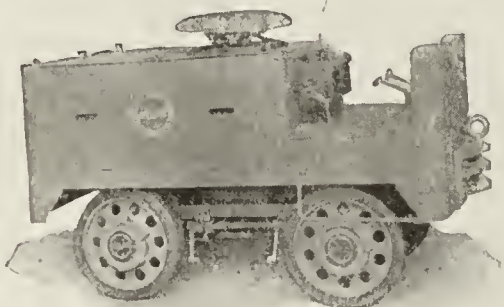
## Clayworking Plants Designed and Constructed

Brick and Tile Plants Appraised.  
Clay Deposits Surveyed and Valued.

Let me help you solve your drying and burning problems from the standpoint of a practical brickmaker of many years' experience.

A. W. Beecher, Indianapolis, Ind.

## ATLAS COST REDUCING EQUIPMENT



Storage Battery Tractor

Electric Transfer Cars  
Rocker Dump and Gable Bottom Cars  
Storage Battery Locomotives  
Electric Trucks and Tractors  
Tunnel Kiln Cars

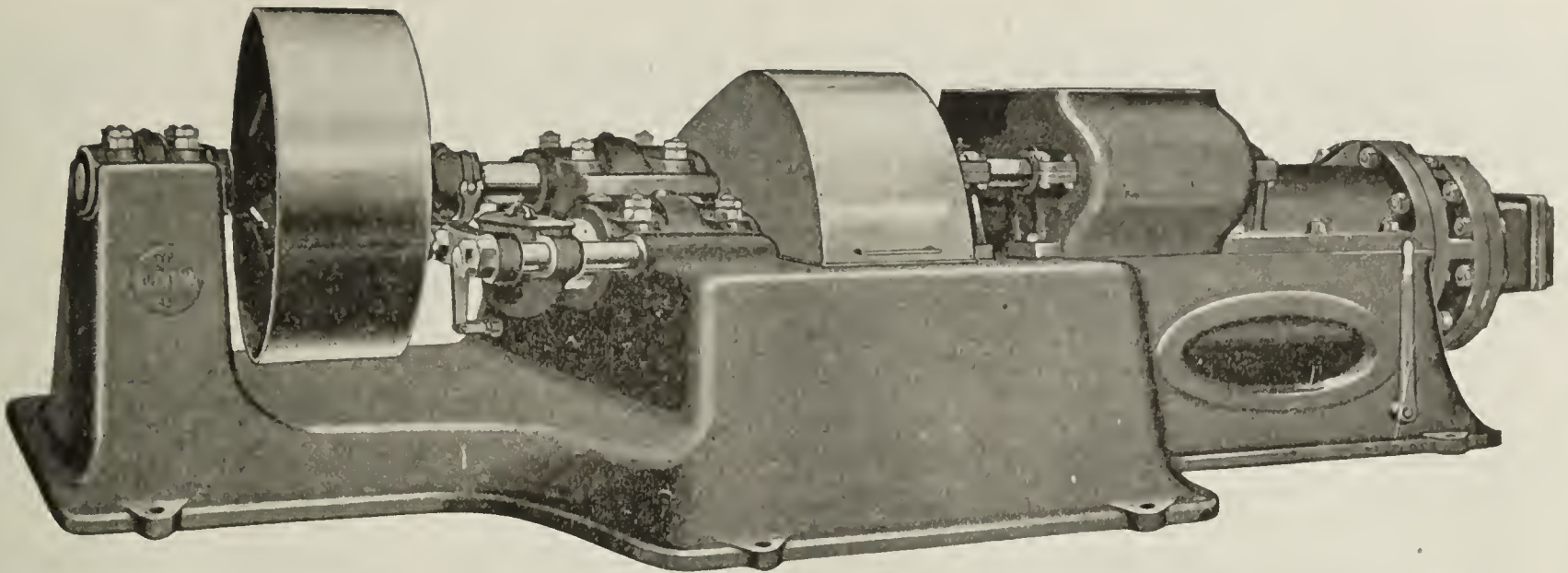
Let us solve your haulage problems.



Storage Battery Platform Truck

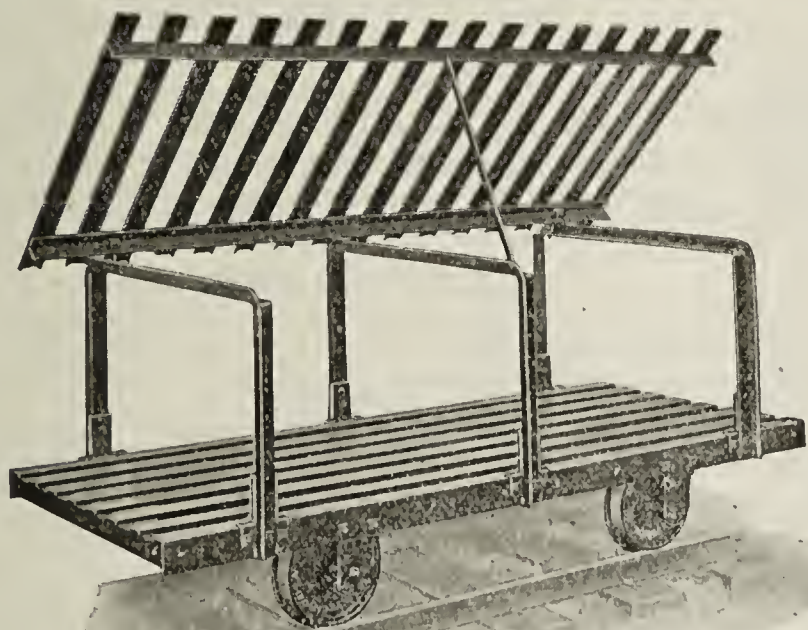
The Atlas Car and Manufacturing Company  
Engineers Cleveland, Ohio Manufacturers





Type 445—25M to 40M Brick per day  
 Type 435—40M to 75M Brick per day  
 Type 425—75M Brick per day Upward  
 Or the Equivalent in Hollow-ware.

**THREE MACHINES OF ADVANCED DESIGN  
 TWO MAIN CASTINGS, SHAFTS AND GEARS**



Type G

**Dryer Cars  
 and  
 Industrial Cars  
 of all types**

**A Complete Line of  
 Machinery and Equipment  
 for the Clay Plant.**

**International Clay Machinery Co.**

**Dayton, Ohio, U.S.A.**

New York

Toronto, Ont., Can.

Pittsburgh, Pa.



PACIFIC COAST NEWS.  
(Continued from Page 488.)

SEVER'S CONNECTION WITH OLD FIRM TO EMBARK IN  
BUSINESS FOR HIMSELF.

steady demand for this material. The California Brick Company has closed contracts for red ruffled brick and Dickey hollow brick tile for the new high school at Escalon, Calif. The Crossly building, Mission and New Montgomery streets, San Francisco, is nearing completion and will be ready for occupancy within two months. The exterior of old Mission buff brick was manufactured at the Richmond Pressed Brick Works, Richmond, Calif., for the United Materials Company, while Dickey hollow partition tile was furnished by the California Brick Company. The last named firm has also closed contracts for face brick backed up by hollow partition tile for the new Hebrew hospital of San Francisco.

Alfred Petit, for more than sixteen years secretary and treasurer of the Chestnut Ridge Corporation of New York City has severed his connection with that company, and is entering the face and fire brick business on his own account in the same territory, which includes Greater New York and adjacent districts, with headquarters office in New York City. Mr. Petit has already made arrangements with a number of the best known firms in the country to handle their products, and with his knowledge of the business, we predict quite a successful business for him. Added to his business acumen is an attractive personality which is an acknowledged asset for any one dealing with the public.

BUILDING OFFICIALS' CONFERENCE.

The San Luis Brick Company, located at Islay Road, Calif., has two kilns ready for brick burning and enough brick to build a third kiln. In a state where there is no coal but abundance of oil and power, brickmakers as well as nearly all other manufacturers use oil and electricity. The chrome brick plant has just installed electric motors, and with the addition of large drying sheds the company expects to expand in its manufacture of chrome brick for lining boilers and white brick. Fine clay and white rock are being shipped in at present and the outlook for winter business is favorable.

WE ARE IN RECEIPT of the published proceedings of the Seventh Annual Meeting of the Building Officials' Conference covering three meetings held during the spring of this year. This published report contains discussion of hollow building tile and its relation to building laws by C. C. Crook of the Hollow Building Tile Association, Chicago. Also a somewhat lengthy discussion of thickness of brick walls for small residence buildings presented by Mr. William Carver of the Common Brick Manufacturers' Association. This includes also a discussion in some detail of the ideal wall which has been featured by this organization. The report, which is in pamphlet form, contains quite a lot of interesting discussion which it is well to have on file.

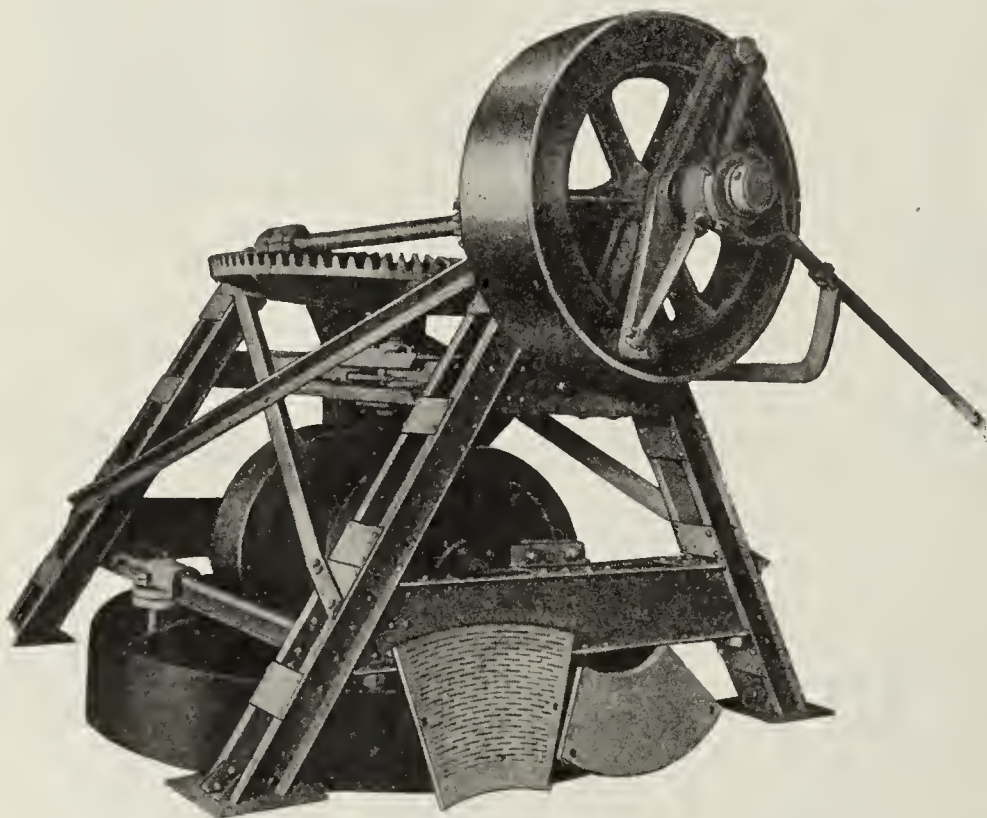
R. C. Penfield, president of the Hadfield-Penfield Steel Company of Bucyrus, Ohio, visited the Pacific coast cities during the past autumn.

SUNSET.

It is commonly said that if bricklayers could get steady work all the year round they could afford to work for smaller wages. If they would work for smaller wages it would improve their chances to get work all the year round.

Portable coal handling machinery helps save labor and reduce cost at the brick yard and quite a lot of it is being brought into service.

## MAKE THINGS OF CLAY THE PIONEER WAY



Send for Catalogue No. 30 of The Taplin-Rice-Clerkin Co., Akron, Ohio, U. S. A.—And Everywhere.

**MACHINERY WE MANUFACTURE:** Single and Double Acting Presses (4 sizes), Dry and Wet Pans (3 sizes), Clay Crushing Rolls (3 sizes), Gravity Elevators, Chaser Mills, Wad Mills, Clayworking Dies of every kind and description, Storage Feeders, Flying Feeders, Piano Wire Screen, Factory Equipment,

REFERENCES (Partial List)

|                                          |                             |
|------------------------------------------|-----------------------------|
| W. S. Dickey Clay Mfg. Co.,              | Kansas City, Mo.            |
| Gladding-McBean Co.,                     | San Francisco, Cal.         |
| The Denny-Renton Co.,                    | Seattle, Wash.              |
| The Alberta Clay Products Co.,           | Medicine Hat, Alberta, Can. |
| The Ontario Sewer Pipe Co.,              | Mimico, Ontario, Can.       |
| B. C. Potteries Co.,                     | Victoria, B. C.             |
| Sidney Island Brick and Lime Co.,        | Sidney Island, B. C.        |
| Tropico Clay Prod. Co.,                  | Los Angeles, Cal.           |
| Big Horn Clay Products Co.,              | Lovell, Wyo.                |
| The Red Wing Sewer Pipe Co.,             | Red Wing, Minn.             |
| The Lehigh Sewer Pipe and Tile Co.,      | Lehigh, Ia.                 |
| National Sewer Pipe Co.,                 | Webster City, Ia.           |
| White Hall Sewer Pipe and Stoneware Co., | White Hall, Ill.            |
| Streator Drain Tile Co.,                 | Streator, Ill.              |
| National Drain Tile Co.,                 | Terre Haute, Ind.           |
| Wm. E. Dee Co.,                          | Mecca, Ind.                 |
| Hancock Brick and Tile Co.,              | Findlay, Ohio               |
| Buckeye Fire Clay Co.,                   | Uhrichsville, Ohio          |
| Uhrichsville Clay Mfg. Co.,              | Uhrichsville, Ohio          |
| Robinsons & Sons Co.,                    | Uhrichsville, Ohio          |
| Robinson Clay Products Co.,              | Akron, Ohio                 |
| Windsor Brick Co.,                       | Akron, Ohio                 |
| Shawmut Clay Co.,                        | Shawmut, Pa.                |
| Union Sewer Pipe Co.,                    | McKeesport, Pa.             |
| Winslow & Co.,                           | Portland, Me.               |
| N. Y. State Sewer Pipe Co.,              | Rochester, N. Y.            |
| Atlantic Terra Cotta Co.,                | Perth Amboy, N. J.          |
| Georgia Vitrified Brick and Clay Co.,    | Augusta, Ga.                |

Mention THE CLAY-WORKER.



# THE UNDERWOOD PRODUCER GAS BURNING SYSTEM

PATENTED

This system represents the development of fundamental principles of the application of Producer Gas to a great variety of furnaces in widely diversified industries. These principles with the highly developed equipment for applying the gas stimulate and extend the use of raw producer gas as the ideal and economical fuel. Industries that have used producer gas for many years have found new and wonderful economic improvement by the use of this system.

In the Glass Industry which is closely allied with the clay industry marvelous improvement has been made in many furnaces with highly beneficial results.

In the production of Carbon Products this system has been highly successful in reducing the baking time, saving fuel and eliminating the use of fuel oil to secure the finishing temperature thereby making the economic and practical results most satisfactory.

In the enameling of metal ware the furnaces are operated with much less fuel and their efficiency has been materially increased.

Furnaces used for roasting Ores, only operative formerly with Natural Gas have been made more successful by the use of producer gas applied by this system.

Railroad Continuous Tunnel Kilns, operating dangerously near failure, have been made successful by the application of producer gas under this System.

For operating periodic kilns, both up-draft and down-draft, this producer gas burning system is superior to all other methods of firing.

On your request we shall be pleased to have our Engineers investigate your conditions. Write us about your burning difficulties.

## THE MANUFACTURERS EQUIPMENT CO.

DAYTON, OHIO, U. S. A.



## BRICK MACHINERY

SPECIALISTS IN  
HIGH GRADE  
PRESSES

*None  
Better*  
SINCE  
1854

MAKERS OF  
UPRIGHT  
MOULDERS

WE BUILD A BRICK MOULD SANDER WHICH OUR CUSTOMERS CONSIDER A VERY EFFICIENT AND ECONOMIC MACHINE.

WRITE US FOR DETAILED INFORMATION.

We also build Upright Moulding Machines, Red Brick Presses, 9" Fire Brick Presses, 12" Fire Brick Presses, Press Boxes, Horsepower Clay Tempering Machines, Steampower Clay Tempering Machines, Brick Mould Sanding Machines, Grinding Pans, Rubbing Plates, Clay Rollers, Pug Mills, Trucks and Barrows, Brick-makers' Tools of Every Description, Castings for Coal Kilns.

We also make any and all brickyard equipment repairs.

PHILADELPHIA  
BRICK MACHINE WORKS  
*Successors to*  
GEORGE CARNELL  
1820 N. 5TH ST., PHILA PA.

## Manganese

We have prepared for the Spring and Summer building boom. Have You?

We have all standard mesh manganese, especially prepared for Brickmaking, in stock ready for prompt shipment, with our mines and mill running full time.

If you have not already arranged for your 1921 supply of MANGANESE, we would advise that you send us your order for your equipments at once.

*We guarantee an even  
grade product at all times.*

**Hy-Grade Manganese  
Company**

Main Office  
Woodstock, Va.

Sales Office  
Charleston, W. Va.

Written for THE CLAY-WORKER.

### THE NEW YORK SITUATION.



HERE SEEMS TO BE SOME complaint among building investors that it costs too much money to obtain the necessary loans with which to build. This seems to be more strongly felt in Manhattan than at any other point. Investors of the shrewd type have been giving more of their attention of late in the direction of commercial investments. Some of this can be attributed to the fear of the overdraw of the housing program should the tax exemption law be given longer life. At present the operations are very numerous along the housing line, as the tax exemption law expires the fore part of the year and the buildings already started or contemplated this fall are being rushed to a finish.

With the disappearance of a transportation tie-up, this can not be a contributing factor to the retarding of the building industry in this part of the country. There seem to be other barriers and upon analysis, the whole simmers down to three factors. To begin with, there is a high barrier in the cost of money, this in itself is an impenetrable wall. The next in line is the cost of labor; there seems to be no positive relief in sight at present.

There seems to be a feeling among many doing the investing, and many are noting there is a gradual change for the better in both commerce and industry. The effort now on foot to reduce the cost of commercial money is viewed by many with a great deal of satisfaction, as it is hoped to be able to stimulate business in general by this process. The New York State Department of Labor has reported a gain of 3½ per cent in manufacturing activity. This has an effect of helping to raise the morale of manufacturers by letting them see what others think of existing conditions. There are many classes of manufacturers in this 3½ per cent increase, and among them is the burnt clay and kindred products.

Reports compiled for the first ten months of this year, for the five boroughs of New York City featuring contracts awarded, show the pleasing amount of \$310,700,000, or thereabouts. This is practically equal in amount to the entire year of 1920. This year has two months to go, with bright prospects. The October totals round out at \$48,330,000. While this figure is somewhat less than the September figure, which was considered a record, it is the second largest monthly total this year. The first month of the year began with a total of \$8,000, and there has been a steady increase reported each month until the maximum in September, \$60,000.

The decline in October is more or less of a seasonal decline, as the amount of work being started now, with what is already under way, practically assures a great amount of activity that will carry through the winter months.

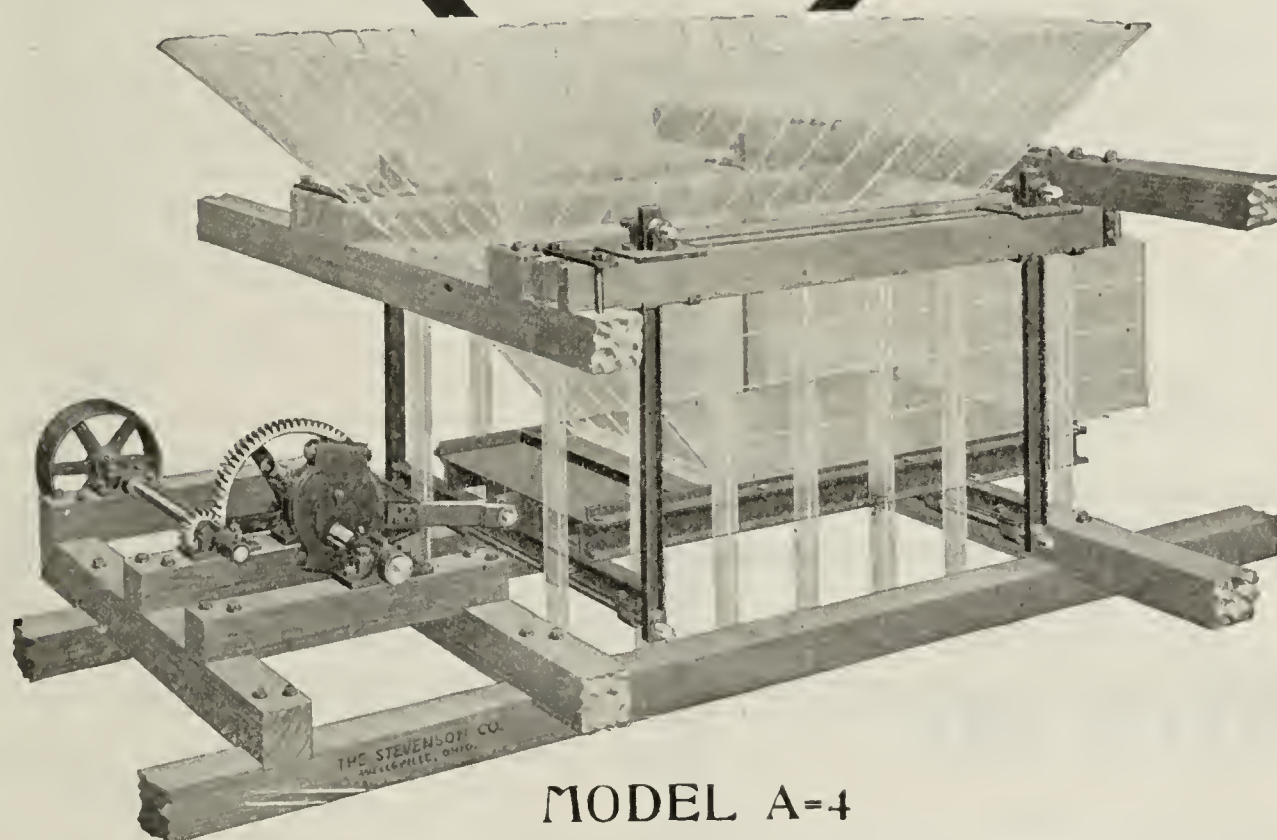
The outstanding feature of this year's total has been residential work and has amounted to 63 per cent of the total as compared with 2 per cent of last year's total as the maximum for that year. The contracts awarded for this year call for approximately 41,700,000 square feet floor space, while in 1920 only 14,150,000 square feet was contracted for, a very respectable gain, as can be seen.

The market in general throughout the Greater City is active. The present boom in building is a strong factor in helping to keep some prices steady, while in other lines there is a strong tendency toward fluctuation. In the basic material, common brick, the rise recorded last month now holds for selects, with the average selling price holding at \$15.00.

(Continued on Page 494.)



A MECHANICAL  
FEEDING DEVICE  
FOR  
DRY PANS CRUSHERS



Bulletins  
on  
Request

MODEL A-4  
RECIPROCATING PLATE FEEDERS

DRY PANS — WET PANS — CRUSHERS  
SEWER PIPE PRESSES — TILE PRESSES  
PIPE TURNERS — ELEVATORS, ETC.

# THE STEVENSON COMPANY

GENERAL OFFICES  
AND  
WORKS

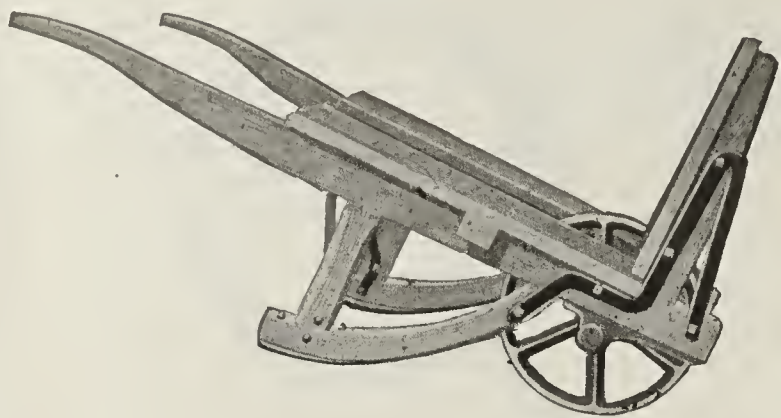
Wellsville = = Ohio

Western Sales & Engr. Office  
802 MONADNOCK  
BUILDING

Chicago = = = Illinois



## The Invincible Barrow



The favorite barrow has lost none of its popularity. We furnish them for either brick or sewer pipe and with plain wood, babbitted or spring bearings. They are honestly constructed thruout. On account of increased manufacturing facilities we are able to make immediate delivery.

Write For Prices

**The Toronto Foundry and Machine Co.**  
Toronto, Ohio

## BURN WITH OIL

SAVE FUEL  
SAVE TIME IN BURN

## Make Better Ware

Eliminate the troubles from sulphur and carbon in coal gases.

"Mack's SYSTEM" is proving a big success on many clay plants.

Let us tell you about "Mack's Hydro-Carbon Burner" and our system of burning.

**McFALL ENGINEERING CO.**

421 S. LIBERTY AVE., ALLIANCE, OHIO

### NEW YORK SITUATION.

(Continued from 492.)

Selected commons move out at \$16.00 wholesale. The f. o. b. job price is in the neighborhood of \$18.50 to \$19.00. Some dealers are getting a figure between, while others are getting the extreme range of prices. Up-State arrivals are being rapidly absorbed, practically nothing is being placed in reserve.

Face brick is following the lead shown by common brick. There is a strong tendency toward growing sales. Prices in this material remain quite uniform, with practically no alteration in price recorded or anticipated. Buffs seem to be the preferred at present, with the price holding at or around \$50.00. Grays are the price leaders with markings ranging between \$50.00 and \$55.00. Colonials are not in a very great demand and are quoted at or near \$45.00; better qualities will bring a dollar or two more, but in the main the price stays very close to the given figures. Reds in both the rough or smooth varieties are not at any higher level, so colonials in all varieties are at the price level given.

Hollow tile is selling at or about the prices that held during the early fall season, six inch tile for partitions is holding at or near 28 cents a square foot, with four inch going forward at a few cents less. These are scored four sides. Smooth one side in the wanted sizes are but little in excess of the given figures. There seems to be a little call for this type of tile block, which would indicate a possible future extension. Architects are specifying this type block for building that will do some extending at a date not very far in the future.

It is reported that the Helfinger Pottery at Fort Edwards, New York, will resume operations after a period of idleness lasting very close to six years. The increasing demand for the ware helped in the decision to reopen the plant.

The Atlantic Terra Cotta Company, New York, recently declared a 1 per cent dividend on its preferred stock. This company has plants situated in New Jersey at various points in the Raritan Valley.

BURTON.

### NEW COMPANY OPERATES SOUTH MILWAUKEE BRICK PLANT.

After many years of idleness, the manufacture of brick and clay products has again been resumed at South Milwaukee. The new company taking over the site and yard operated here in 1905 is the South Milwaukee Brick Co. E. C. Guhr, 706 Hawthorne avenue, is president. He has associated with him three sons—Robert, Ernest and Herbert. The senior member is an old hand at brick manufacturing, his father having operated in Waukesha county many years ago. The South Milwaukee yard is located at Fifth avenue and the lake shore at the south city limits. The tract comprises forty acres and contains a fine quality of clay.

The new operating company has been conducting experimental work on the site for two years, making borings and testing out the clay, laying out plans for buildings and equipment. A private power plant has been erected, including a boiler, two steam engines, electric generator, pumping station, clay diggers, hoists, mixers, driers, etc. The present output of the plant now is about 10,000 brick per day, but this will be increased next year. The company also contemplates putting in machinery for the manufacture of tile, pottery and other clay products during the winter months. The present output has been confined to a fine grade, smooth-faced brick and a rougher brick for general construction. The Milwaukee market has furnished an excellent demand for the output this season.



# Announcing the Winning Name in the Lancaster Iron Works Brick Machine Contest

The offer of a \$50 award for a name to take the place of the Arnold-Creager S. S. S. Special Brick Machine created considerable interest in the brick industry. Many excellent suggestions were received— all of which were given the most careful consideration.

In adopting the name

# AutoBrik

*Suggested by—*

GEORGE S. DAVIES

DOVER FIRE BRICK CO., CLEVELAND, OHIO,

we are confident that the proper selection has been made— particularly in view of the fact that the machine makes bricks automatically and the bricks made by the “AutoBrik” Machine will be known as Auto Brik.

We take this opportunity to express our thanks to all those who entered the contest and to congratulate the winner upon his success.

## Lancaster Iron Works, Inc.

LANCASTER, PENNSYLVANIA

Brick Machinery Department.

James P. Martin, Manager.

*Specialists in completely equipping Building Brick and Fire Brick Plants for the manufacture of brick by the Soft Mud Process.*



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ORIGINAL  
**Boss**  
SYSTEM

### Boss Ten-Hour Dryer

Will dry your daily output in TEN HOURS with either WASTE HEAT or EXHAUST STEAM.  
Less cost to build—Less cost to operate.

### Boss System of Burning

Brick or hollow ware burned in ONE-HALF LESS TIME and ONE-HALF LESS FUEL. Increases your kiln capacity. Dryers and kilns designed and built. Let us solve your drying and burning problems.

ORIGINAL  
**Boss**  
SYSTEM

**J. C. Boss Engineering Co.**  
Elkhart, Indiana

ORIGINAL  
**Boss**  
SYSTEM

YOU HAVE KNOWN FOR YEARS THAT

## RICKETSON'S MORTAR COLORS

are pure and brilliant in tone, economical in application, absolutely reliable, and a permanent guarantee against fading and washing.

### Why Not Insist on Having Them?

They are the acknowledged best for all uses---Mortar, Brick, Cement, Concrete and Stone.  
Red, Brown, Buff, Chocolate and Black

## RICKETSON MINERAL PAINT WORKS

MILWAUKEE, WIS.

## CARS CASTINGS DIES

In our Foundries and Machine Shops we are prepared to furnish Dryer Cars, Clayworkers' castings and Dies of all kinds for sewer pipe press and machines, Etc. Write for Prices

**Wm. E. Dee Co. 30 N. LaSalle St.**  
Chicago, Ill.

## Over 60,000 In Use

Oil Burners For All Types of Kilns



Perfected to  
The Minute  
**HEAT TELLS!**  
Write us today

"Be Sure It's Schurs"

## SCHURS OIL BURNER CO.

Established 1905  
Los Angeles, Cal., U. S. A.



# Classified Advertisements

## FOR SALE, WANTED, ETC.

Advertising rates in this column 35 cents a line, or 6 cents a word each insertion; about six words make a line. Cash should accompany the advertisement to insure insertion. No ad inserted for less than \$1.00.

## WANTED, ETC.

### WANTED—TO EXCHANGE

240 acres of farm land in Macoupin County, Illinois, for a small brick or tile plant. Address E. W. G., 93 c Care Clay-Worker.

### WANTED.

Position as manager or superintendent of brick plant, with an up-to-date concern. Thoroughly experienced and services available immediately. Address MANAGER, 111 cm. Care Clay-Worker.

### WANTED.

By a high-class, well qualified man, position as superintendent or manager of hollow ware plant. Have had practical experience in manufacturing all kinds of hollow ware, including silo block and conduits. References as to ability, etc. Address

HOLLOW WARE,  
93 d Care Clay-Worker.

### WANTED POSITION.

Young man, single, 23 years old, desires responsible position where hard and earnest work will be appreciated. Familiar with correspondence, secretarial work, typing, purchasing, sales correspondence and follow-up work and general office work. Formerly employed by a large clayworking machinery firm. Apply, CASS, Care Clay-Worker.

## ATTENTION

The control of the Pacific Coast Trade in pottery and clay products is yours, if you have the ability to handle it. We have unlimited quantities of white-burning china clays, infusorial earth, beautiful red-burning clay, fire clay, and all the raw materials necessary to carry on a business worth millions. BLUE MOUNTAIN REFRACTORIES CO., Ltd., 2563 Oxford St., Vancouver, B. C., Can. 10 b c

## POSITION.

Brick manufacturer with years of successful operation and organization experience, desires correspondence with company desiring a manager or superintendent or parties having property to develop. Address Clay-Worker. 111 d.

## FOR SALE

### FOR SALE.

Two E. M. Freese single geared brick machines, capacity 5,000 brick per hour, factory rebuilt. Address MACHINES, 111 tf d. Care Clay-Worker.

### FOR SALE.

Four double die Bonnot represses. Good condition. \$200.00 each, f. o. b. Galesburg, Ill. THE PURINGTON PAV. BRICK CO., 111 tf d. Galesburg, Ill.

### ATTENTION BRICK & TILE MANUFACTURERS.

I will exchange equity in good 160 acres Iowa farm for a brick or tile plant. For particulars, write, Box 286, 111 cm. Maxwell, Iowa.

### FELDSPAR—FOR SALE.

Large vein, 70 to 125 feet wide, nearly half mile long. Great depth. Located on tract of several hundred acres. Two miles all down grade to railroad station. WALTER J. PITKIN, 111 cm. Corinth, N. Y.

### FOR SALE.

Side cut brick plant. The only one within eighty miles. Everything in first class condition. Cannot near fill the demand. BROOKS LONG BRICK CO., 111 tf d. Jackson, Tenn.

### FOR SALE.

One Raymond Victor Repress, used very little, in excellent condition. One Raymond 777 auger machine, 40,000 to 50,000 capacity, including new repairs. Address REPRESS, 111 tf d. Care Clay-Worker.

### FOR SALE.

One two mold dry press machine complete, with extra molds, dies, elevator, mixer, line shafting, pulley, etc. Complete equipment for 10,000 capacity plant. SUPERIOR PRESS BRICK CO., 3190 So. Kingshighway, 111 tf d. St. Louis, Mo.

## FOR SALE.

American double geared 10 ft. steel shell pug mill with friction clutch pulley, full set new knives; good condition. Price \$350.00 cash. Address XYZ, 111 d. Care Clay-Worker.

## FOR SALE.

Repress heavy model, also complete oil burning outfit and single drum hoisting engine. One Sturtevant double cylinder steam blower, almost new. Will sell all very reasonable.

CRESCENT BRICK MFG. PLANT, 111 dm. Eatontown, N. J.

## FOR SALE.

One No. 41 American Augur Machine, price for immediate sale \$400.00. Also one Champion Rock Crusher, price \$200.00, F. O. B. Byesville, Ohio. THE NICHOLSON CLAY PROD. CO., P. O. Box 155, 103 cm. Cambridge, Ohio.

## FOR SALE.

Brick manufacturing plant. Situated on the Hocking Valley railroad, at Union Furnace, Ohio. 230 acres of land, containing buildings and equipment and a very large amount of clay suitable for making the famous Columbus buff, gray and speckled face brick, also red dry pressed face or rough texture brick.

For particulars address

MR. F. F. HOFFMAN, Secretary,  
85 North High Street,  
83 cm. Columbus, Ohio.

## FOR SALE.

An up-to-date clayworking plant with daily capacity 100 tons hollow ware, in operation to August 1, 1921.

Round down draft kiln equipment.

200 H. P. steam power plant with coal dump pit of 400 tons capacity.

1500 feet of switch track.

In corporate limits of city of 25,000 population.

50 miles from Chicago on outer belt line with \$2.00 switching rate to 3 other railroads.

Clay supply is exhausted and have been shipping clay for some years, and have clay dump and gondola cars equipment.

Making low priced ware and are transferring manufacturing operations to claybank

For manufacturing any grade of clay ware that will bear expense of shipping clay this is a good buy.

Our price is based upon market value of real estate, plus junk value of plant. Address PLANT, 112 d. Care Clay-worker.



## Classified Advertisements.

## BRICK MACHINEERY FOR SALE.

Freese, Bonnot, Fate Premier, Brewer, 9A, Raymond 777, International (new), Arnold-Creager SSS and Automatic, Martin, Hercules, Potts; American and Potts compound crushers; tailing crusher; A. C., and Chambers disintegrators; 9, 10, 14, 16 ft. pug mills; Freese, Fate, Raymond No. 2, Brewer cutters; three 7 ft. under driven crushers; No. 00 Thew Shovel Climax and Eureka Jaw Crushers; 40 and 60 ft. rotary dryers; Buckeye Clay digger; 5 1½-yd. Lakewood V dump cars; 257 double deck dryer cars; 160 rack dryer cars; 4, 7, 9, 10, 12 ft. dryer fans; 2 and 6 mould Boyd dry presses; 5 and 9 ft. dry pans; new 42 section Youngren gas fired kiln with gas producers, never used; 12 track National Dry Kiln Co. dryer; 10x34 galvanized and wood pallets, pulleys; 6 to 24 inch canvas belting; engines and boilers. If you don't find what you want in above list, let me hear from you.

FRANK McCLELLAN,  
14624 Ardenall Ave.,  
Cleveland, Ohio.

10 tf d

## PUBLIC SALE OF BRICK FACTORY.

The undersigned will offer at public sale, on Thursday, December 15, 1921, at 1 o'clock p. m., on the premises one and one-half miles east of Dennison, Ohio, the following property, to-wit:

A brick manufacturing plant, consisting of steel buildings, 200 horse power steam power plant; dryer pan; shafting; belts; brick machine; Freese brick cutter; 140 double deck dryer cars; 10 track tunnel dryers; 2 30-ft. round draft kilns; 2 Eudaly kilns 22x74; 440 feet side track, connected with the Pennsylvania Lines; 33 acres of land in fee simple, consisting of the plant site shale bank; about 200 acres of No. 6 vein of coal, and No. 6 vein of fire clay, with all the appurtenances to said property belonging

The said property is appraised at forty-eight thousand and ninety dollars (\$48,090.00).

Terms of sale, cash, upon confirmation by the Court and delivery of the deed.

Full details and information can be obtained from any of the three undersigned persons.

WESLEY S. CUMMINGS,  
Trustee in Bankruptcy,  
Dennison, Ohio.

J. ALVIN O'DONNELL, Attorney,  
Miller Building,  
Dennison, Ohio.

W. B. STEVENS, Attorney,  
Uhrichsville, Ohio.

## FOR SALE.

One Chisholm, Boyd & White Dry Press.

Two new Elwell Parker type "EG" elevating platform electric trucks; 4 American 9 ft. dry pans; 2 new steel leg bucket elevators for same; 1 Newaygo clay screen; 1 70 KW. 250 volt D. C. generator; 2 new 40 H. P. A. C. motors; 3 pit cars; 1 jaw crusher; 1 new 20 K. W. 125 volt D. C. generator; 100 ft. heavy line shafting with all fittings. If interested in any item, write for further information to

BRADFORD BRICK & TILE CO.,  
2 Main St.,  
Bradford, Pa.

7 tf d.

## FOR SALE.

Books for Brickmakers. Inexperienced workmen will find them a source of valuable information. "The Effect of Heat Upon Clays," by Prof. A. V. Bleining, price \$2.00; a book of valuable information on burning and drying, told in a plain, practical way, and invaluable to the burner or superintendent. "Analyses of Clays," \$2.00; a valuable reference book, giving analyses of well-known clays of this and foreign countries. "The Clayworkers Handbook," \$6.00, a manual for all engaged in the manufacture of articles from clays. "Clays," their occurrences, properties and uses, with special reference to those of the United States, \$5.00. Any or all of these books mailed, postage prepaid, on receipt of price. Write for list of other valuable books for clayworkers. Address

T. A. RANDALL & CO.,  
Indianapolis, Ind.



## WANTED TO EXCHANGE.

7,500 acres of valuable undeveloped Michigan farm land for going brick and tile factory. Cash for difference.

H. H. GARDEN,  
Salem, Va.

8 3 cm

## POTTERS PUG MILLS FOR SALE.

Two American Clay Machine Company's make, No. 3-2, in good working condition. For further information address

THE BUCKEYE CLAY POT. CO.,  
Box 36, Station G,  
Toledo, Ohio.

11 3 dm

## WELL DRILL FOR SALE.

One new (never used) No. 25 New Armstrong blast hole drill, without power, but adapted to either motor, kerosene or gasoline engine drive. Address,

SILICON PRODUCTS CO.,  
Rm. 18 Ridgway National Bank Bldg.  
Ridgway, Pa.

9 3 cm

FOR SALE AT PRE-WAR PRICES,  
NO PROFITEERING.

One Chambers brick machine, 30 to 50M capacity.

One Freese automatic brick cutting table.

One Fate premier special combined brick and tile machine.

One Bensing automatic brick cutter with two sets of cutting chains.

Two Bensing automatic block cutters.

One Bensing automatic end cut brick cutter.

One dry clay feeder.

Two Boyd four mould dry presses

One Berg four mould dry press.

Assortment of hollow building block dies.

All located in Rocky Mountain states, and first class condition.

For further information write,  
GEIJSBEEK ENGINEERING CO.,  
Clayworks Engineers,  
Burke Bldg., Seattle, Wash.

11 1 d.



## The Parker-Russell Mining and Manufacturing Co. ST. LOUIS, U. S. A.

Fire Clay and Silica Products of Quality for Service---  
Especially for Kiln Construction.



## MANGANESE

BEST QUALITY MANGANESE, CAREFULLY AND UNIFORMLY PREPARED FOR BRICKMAKING. WRITE US FOR SAMPLES AND PRICES.

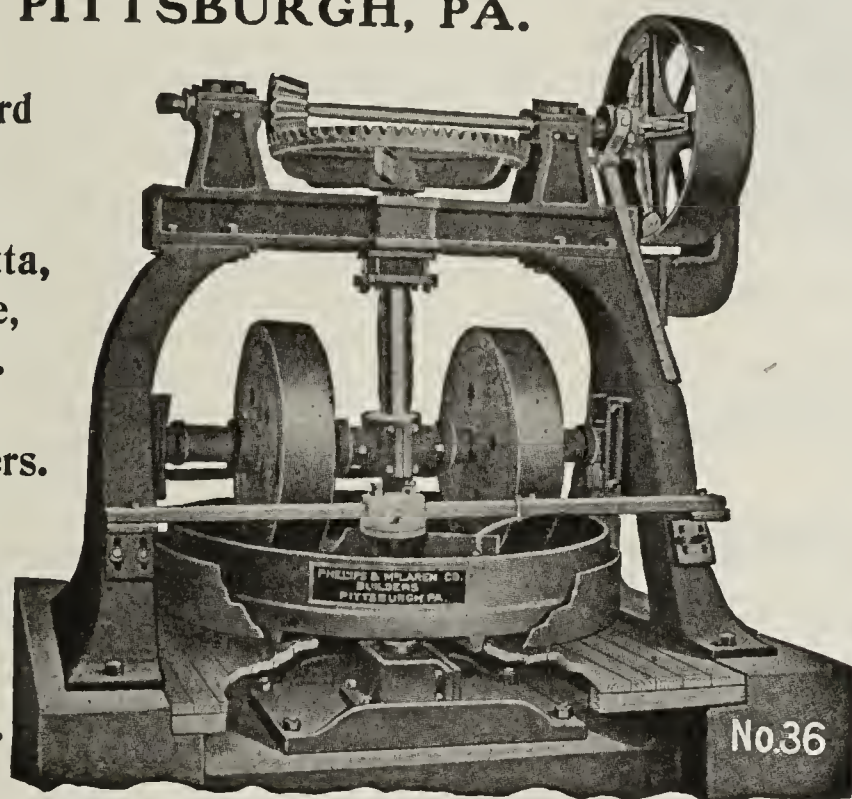
NATIONAL PAINT AND MANGANESE CO.  
LYNCHBURG, VA.

MINERS AND GRINDERS.

## PHILLIPS & McLAREN CO

PITTSBURGH, PA.

Builders of  
Pittsburgh Standard  
Dry and Wet  
Grinding Pans  
for Brick, Terra Cotta,  
Sand, Cement, Ore,  
Refractories, etc.  
Also  
Rock and Ore Crushers.



When writing for prices state  
kind of Clay or Material to be  
ground and capacity desired.

Eastern Sales Office  
Stephen Girard Bldg.  
Philadelphia, Pa.

Brick manufacturers who have anything in the way of second-hand machinery or appliances, will find a ready market for same through a card in our Classified Advertisements. Superintendents, yard foremen, burners, etc., desiring to make a change, will do well to run a Wanted ad in our classified department. Clay-Worker ads bring results.

## Anchor Brand Colors

For Mortar Cement and Brick.

BROWN, BLACK, RED AND BUFF.

Strongest and Most Durable.

Manufactured by

C. K. WILLIAMS & CO.

EASTON, PA., U. S. A.

Correspondence solicited.

## Chattanooga Paint Co.,

Chattanooga, Tenn.

Manufacturers of

Red Oxides for Brick-  
makers' Use.

ECLIPSE MORTAR  
COLORS,

Red, Brown, Buff, Black.

R

Authorities recommend; Builders and Owners Desire

## SCUM PROOF PRODUCTS

These can be procured by the use of

R & H PRECIPITATED

## CARBONATE BARYTES

The Roessler & Hasslacher Chemical Co.

New York, N. Y.

"America's Leading Ceramic Material House."

C

### Branches

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N. Y.  
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W. Va.  
Los Angeles,  
Cal.

C



Written for THE CLAY-WORKER.

SEEN IN NEW JERSEY.

THE

SITUATION THROUGHOUT the state is most encouraging. Architects in the various centers are all reporting good-sized contracts on work contemplated for erection in the early part of the new year. This work covers a multiplicity of various kinds of construction, from the residential work to large municipal enterprises. This is a general forerunner of what is to be expected in the spring.

At present there are a lot of plans out for figures on the general run of seasonal projects, but nothing of any great size is coming through till spring. Here and there a proposition in the neighborhood of \$100,000, but those above this figure are not very numerous, with the exception of the public school work. There appears to be an easing up on the tension felt a few weeks ago. This can be felt in many ways and any one with any perception at all can readily see there has been a change.

Material prices in the various building centers are remaining quite steady and firm. Little or no change is recorded, with the possible exception of common brick and there a drop or a rise of a dollar or so is to be seen. The supply in and around the larger centers is quite well preserved. There seems to be quite a good supply of both Hackensack and North River brick in the principal centers in the northern part of the state. In and around Paterson the price for commons is \$18 with the price fairly steady. Newark is selling a good grade of commons at \$20 to \$22 with the majority of sales very close to the lower figure. There seems to be but little change in price until after crossing the Raritan river. On reaching Trenton the price of commons remains steady at \$18 to \$20. The kiln price of these brick usually is a dollar or two less. In the northern part of the state \$17 seems to be the popular price, while others may ask a dollar one way or the other. The price in the southern part of the state shows but a little over this figure.

The sale of face brick holds quite steady for this season of the year. A large quantity of this class of brick is being used in and around the Paterson center. In the immediate vicinity there are sixteen school buildings in the process of erection or to be started at a very early date. On this type of construction large quantities of face brick and hollow tile are used. Prices remain steady at or around \$40 to \$50. Good brick business is reported in many of the large centers, and dealers are quite optimistic with regards to the outlook of the future.

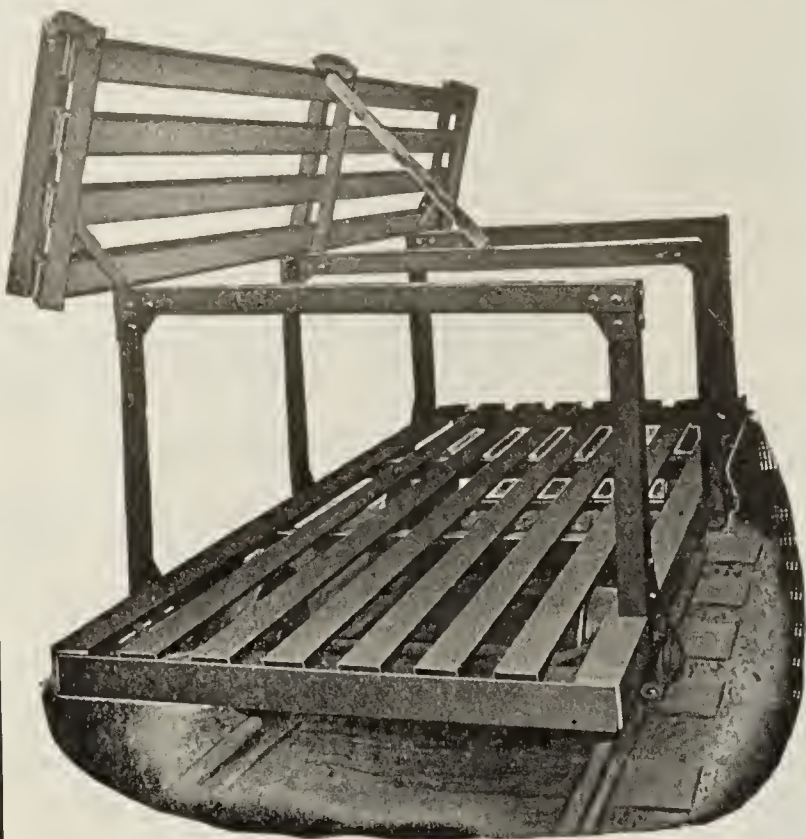
The Keasbey (N. J.) plant of the National Fireproofing Company is reported as resuming operations. This plant has been idle for a period of nearly a year. While operations have been resumed, a full force is not contemplated until a later date. During the period of slack times the business of the country has passed through of late, this company has made alterations to its many plants that will bring them onto an up-to-date basis and put them into a position to meet all demands for future production.

A new association has been organized by the Ceramic interests at Perth Amboy, N. J. It is to be known as the Perth Amboy Industrial League, and is to have the object of providing for the general welfare of the men employed in the various industries in and around this manufacturing center. It is hoped to develop the sporting blood of the men by arranging for various athletic contests and games. The president of the league is Mr. Herbert Hooper of the Roessler & Hasslacher Chemical Company. Mr. William H. Hallahan of the Atlantic Terra Cotta Company is first vice-president.

The New Jersey Porcelain Company of Trenton, N. J., recently filed plans for the erection of a new plant building. This is one of the many industries in the state contemplating a bright future and is preparing for it by making its alterations and additions at this time.

It is reported that the demand for sanitary ware is increasing and several of the plants in various parts of the state are maintaining capacity operations. The Woodbridge (N. J.) Ceramic Company is one of the several plants reporting a noticeable increase in demand.

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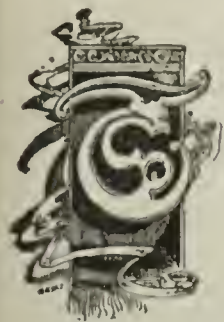
Lancaster Ave.  
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Philadelphia, Pa.





Written for THE CLAY-WORKER.

THE NEW ENGLAND SITUATION.



THE OUTLOOK IN THIS SECTION has not changed perceptibly from what was depicted a few weeks ago. From outward appearances the prospect for business due to fall and winter operations is most encouraging. The greatest interest at present is in the erection of habitats for mankind, as apartments and dwellings. This does not mean that industrial operations have ceased, but the comparison of the two, shows residential and apartment construction far in excess of the industrial work.

The Boston material markets remain steady, with very little change to be noted. Connecticut brick are quoted in the neighborhood of \$20.00 or a little higher, probably a dollar. North River or New York brick is moving at \$19.00. These figures might be shaded a trifle in some cases but in the main they remain quite steady around these figures. The price asked for water struck brick is around \$30.00 at the job. Face brick has had a rather brisk call of late, and the asking price is very close to \$50.00 for regular stock in the smooth and rough varieties. Selected stock is marked between \$50.00 and \$60.00 with many dealers moving their wares at a price in between the range figures. Hollow tile is receiving quite a little attention of late, due to the requirements of the class of buildings that are receiving the most attention, prices are steady at the former levels, with little or no change in the near future anticipated. Stocks are in fair shape for the demand at present and early winter.

The market as seen in and around Providence is having a good call for the burnt clay products. The levels maintained are in a way comparable with what has been seen in the past. Common well burned brick are quoted around \$28.00 and in some cases one would think this basic naturally is in for a rise; it is going up in other sections, and a rise in price would be in keeping with other locations. There seems to be a fair supply, but with the extensions in progress and contemplated, it is really hard to anticipate just what the future holds. Face brick is receiving quite some attention of late, with a supply on hand, while not large, that is ample for the present requirements. The prices remain quite steady at levels that compare well with past quotations. In a general way around \$55.00 for the better qualities with some varieties moving as low as \$40.00. Hollow tile is high when compared with what is noted in other centers, there is quite some demand for some of the principal sizes, but the reserve seems to be ample to care for needs as existing at present.

In the principal building center in Maine the price of commons stays very close to the \$30.00 mark. Some dealers are quoting about \$2.00 higher, but in general the price does not vary to any great extent above or below this level. Some of the plants making this product are reported as being closed for the season, and what reserve they have accumulated will not be great enough to care for any needs beyond the present demand.

The Connecticut River section shows up well with the other parts of the section. There seems to be plenty of work contemplated. Commons are quoted at a variation for home products, the range is between \$17.00 and \$25.00 and the prevailing price depends much on the reserve that holds in the section that is using the material. Length of haul and quantity are other factors that have to be considered. Some plants have stopped for the season while others are operating and very little more can be said of them.

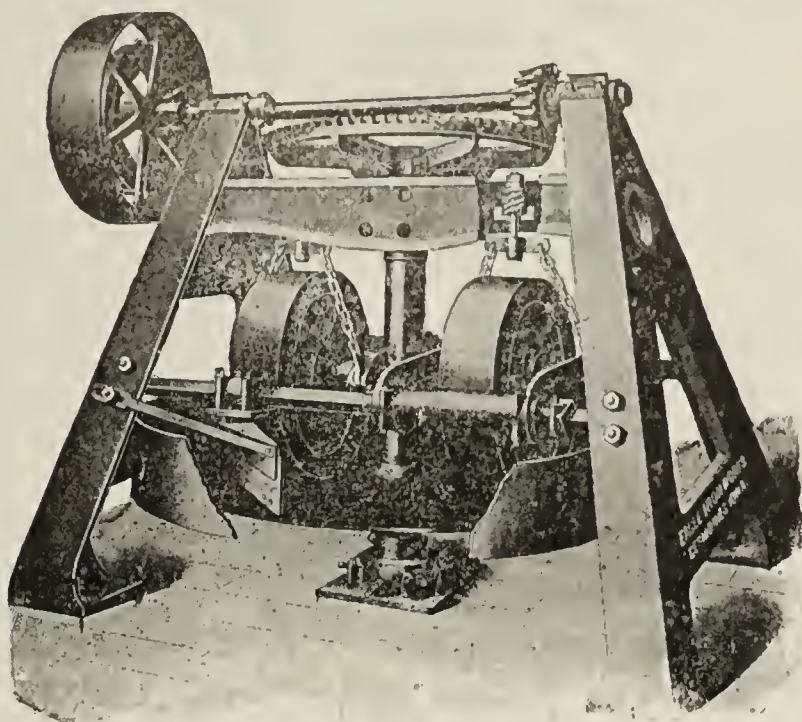
It has been reported that the Purinton Brick Company plant at Skowhegan, Maine, has been closed for the season. A half million brick have been manufactured during the season, with the quarter part of the burns being used right in the state proper and on projects of interest to those connected with the industries of the commonwealth. The labor used in the yard are busy bringing in the necessary fuel for next year's work.

There was a slight fire at the Park Brick Yard at Hartford, Connecticut. The damage done was only to one of the sheds which it is claimed was covered by insurance.

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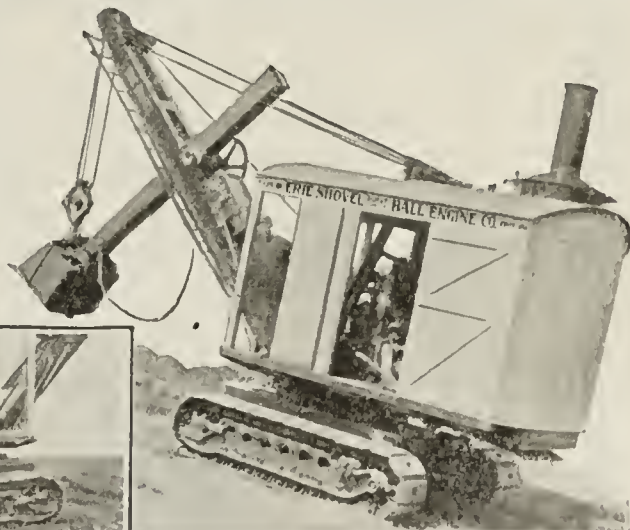
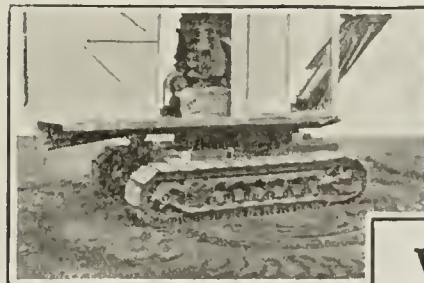


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Written for THE CLAY-WORKER.

## BRICK AND BUILDING NEWS OF EVANSVILLE AND SOUTHERN INDIANA.



BUILDING OPERATIONS in Evansville and many of the other cities and towns in southern Indiana have continued quite active during the past month or six weeks and indications point to a great deal of building during the balance of the year or until the setting in of cold weather. General business conditions in Evansville have steadily improved and the contractors and brick manufacturers believe that the building boom now on in Evansville will be continued into next year and that 1922 will witness more building than for several years past. Evansville bricks are now being shipped into several states, according to a statement a few days ago of John Andres, secretary of the Standard Brick Manufacturing Company of that city who sees great prospects ahead for men in the brick manufacturing business during the next year or so. The normal capacity of the Evansville brick companies is nearly 200,000 bricks daily. Many of these plants have turned out more than their normal capacity during the past month owing to the increased demand caused by increased activities in building operations.

In the opinion of Mr. Andres it will take three years for Evansville and other cities in southern Indiana, southern Illinois and western and northern Kentucky to build what they need at the present time. It must be remembered that for several years past there was little building and while the building this year exceeded any other year since the United States got into the world war, building is still below normal and there is a great shortage of houses still reported in many of the cities of the tri-state territory. "Hundreds of businesses have been postponing their expansion plans for the last three years," said Mr. Andres the other day. "Now that prices have hit rock bottom and an immense building campaign is facing them, with possibilities of congestion, they are getting busy. Next year promises to be the greatest building year on record."

Common brick in Evansville have been cut 30 per cent during the past summer, although they never reached the peak prices that were charged in many other cities. Common brick in Evansville never sold for more than \$20 a thousand, while in many localities they were sold for \$25 to \$35 a thousand. It is not believed that building materials will be much lower in price if any next spring, while on the other hand some of the manufacturers believe that certain materials will be much higher next year than they have been this year.

After an idleness of two months, operations at the plant of the National pottery in Evansville were resumed a few days ago and practically the entire force was returned to work and it is expected that the force will be increased within a short time. The pottery is one of the largest industries on the West Side in Evansville and employs about 200 men at good wages when times are normal. The pottery has been running for several years and its wares are sold in all parts of the United States.

An announcement of interest to the brick manufacturers and other shippers was made a few days ago by the Evansville and Bowling Green Packet Company, when it was stated that freight rates would be reduced from 25 to 50 per cent. The company operates a line of steamboats in the Evansville and Green and Barren river trade between the city of Evansville and Bowling Green, Ky. The boats carry a great many brick into western Kentucky in the course of a year. The company is the first along the lower Ohio river to announce a reduction in river freight rates and the reduction is expected to have a stimulating effect upon trade conditions.

Henry C. Kleymeyer, president and manager of the Standard Brick Manufacturing Company and president of the Evansville Chamber of Commerce, was one of the directing forces in the annual convention of the Ohio Valley Improvement Association, that was held in Evansville, November 15th and 16th and which brought delegates and visitors to Evansville from the leading cities from Pittsburg to Cairo, Ill.

Henry C. Kleymeyer, president of the Chamber of Commerce, has appointed a committee to work out plans for the establishment of a traffic bureau in that city. Plans now are being formulated to raise sufficient money to maintain this bureau. The bureau formerly maintained by the Chamber of Commerce was abolished a little over a year ago because of the lack of funds.

A HOOSIER.



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### AMONG PHILADELPHIA BRICK MEN.



BUILDING IN PHILADELPHIA reveals its returning strength and material men in general report that there is much figuring going on at the present time, with a fair number of contracts being awarded. To confirm this, one need only visit the various contractors' and architects' offices. Those who have seldom had more than one set of plans on the boards at one time now have as many as five sets and architects that ordinarily have had one assistant now have as many as four. There seems to be a general shift of activity in all offices.

It appears that at the beginning of the new year this city will see a spurt in building construction. Much work will be offered for men now unemployed. The Board of Education has plans in progress for over a million dollars' worth of school construction that will be started after the first of the year. A new high school in Rox borough will be three stories, of brick and steel, to cost \$450,000. Another on Warrington Avenue will cost \$500,000. A three-story brick and steel addition to the Stetson School will cost \$125,000 and a wing on the Leidy school will cost \$250,000. Plans are in progress also for a school at Thirteenth and Loudon streets to cost \$750,000.

A permit has been issued to Cramp and Company, builders, for the erection of a brick and steel school at Franklin and Norris streets to cost \$356,000. Plans are being prepared for a Young Men's Hebrew Association Building to cost \$750,000. It will be a brick building, five stories high. Builders are now working on plans on an apartment building to be erected on Byrn Mawr Avenue, to cost more than \$200,000.

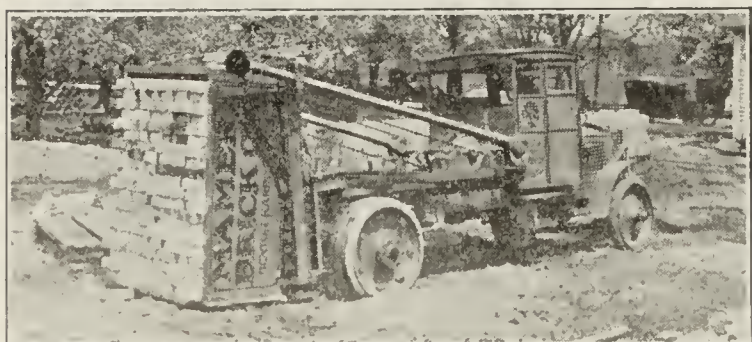
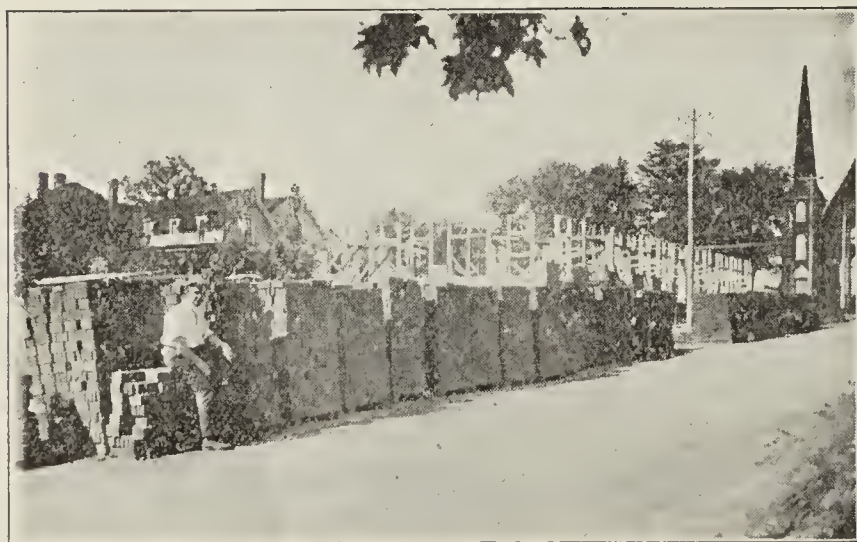
It will be three stories, of brick, tile and steel. There will be six apartments on each floor, a large courtyard, with a fountain in the center of the site and brick driveways around the building.

Several months ago plans were issued for an apartment house on 63rd street, south of the city line, but contract has not been let. This building, too, would cost around \$200,000. One of Philadelphia's largest builders of dwellings is now erecting dwellings that will sell for slightly more than \$5,000. For the past few years this builder has been erecting, and still is for that matter, dwellings that range in price from \$8,500 to \$20,000. He seems to realize that while there is still a market for the higher-priced dwellings, the demand for the lower-priced and smaller dwellings is really greater.

Possibilities of a great building material export movement loomed upon the eastern market last week, when it was learned that Henry C. Irons, formerly of the firm which erected the Cunard Building in New York City, has been invited to take charge of the rebuilding of devastated France. Building interests have been speculating since the war upon what method the French would take to rebuild. Lumped as one big construction project, it at once appeared as the biggest program in history.

Last month was the best October in the last ten years and probably in the history of the Bureau of Building Inspection. Twelve hundred and eighty-five permits were issued at an estimated cost of \$5,533,225. The previous highest October record, \$4,840,005, in 1919, is nearly seven hundred thousand less. While ten months of this year compared with the same period in 1920 show that there is an increase of 1,382 permits, it is also shown that the estimated cost of this year's work is \$17,634,600 less. Small alterations and additions, as well as a great number of garages, account for the abnormal

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issuance of permits at a low estimated cost. In October, permits were issued for 308 dwellings at a cost of \$1,761,295.

Philadelphia's skyline will be somewhat changed when the office buildings for which permits were issued late in October and early this month are erected. The total amounts in permits in one day for office buildings alone was \$850,000, a greater sum than for all the office buildings during the first nine months of the year. Permits have been issued thus far this year for office buildings to cost \$1,600,000.

The largest office building to be erected will be the Medical Arts Building. It will be 15 stories, of fireproof construction, and will cost about \$300,000. A \$300,000 office building, referred to previously, is being built adjoining the Ritz-Carlton Hotel. Sansom street, between 15th and 17th streets, will be the scene of building activity, where two ten-story office buildings, each to cost \$300,000 will soon be started. The Franklin Trust Company is having erected a twelve-story addition of concrete and brick at a cost of \$210,000. The Cobbs-Creek Title and Trust Company plans a new \$50,000 home of brick and stone.

Lodge No. 2 of the Elks has taken title to a site for a beautiful new clubhouse. The plot cost \$750,000. The clubhouse will be among the most elaborate in the city, ten stories in height, with the four lower floors devoted to lodge-rooms, banquet hall, assembly hall, gymnasium and the remaining six floors will be given to hotel accommodations for 300 and 400 guests.

Contract for two locker buildings to be erected in League Island Park has been awarded. The two buildings will be one-story brick with four wings and will cost \$86,000. A \$130,000 bakery will be started soon for the Mayer Baking Company.

The amount of operations in the Philadelphia district,

according to figures placed before the President's Unemployment conference, was greater for September than any September on record. The amount was 11.5 per cent greater than in August, whereas in the ten-year period previous to 1921 September building contracts have averaged 14.5 per cent less than August.

Brick men have shared with other suppliers of building materials in the building development this fall. They have sold building brick, and face brick, too, at low prices. These prices prevailed because of sharp competition.

Makers of China and sanitary ware are experiencing a good demand which has improved considerably since September 1. Orders, although larger in size, are still for immediate use.

THE QUAKER.

#### GARAGE WORK.

THIS HAS BEEN a very active year in garage building. Some reports indicate a greater number of garages constructed than new homes, and as a result quite a lot of interest is centered on this matter. Big commercial garages are quite often built of brick and other clay products, but the greater percentage of individual garages have been light structures of wood and metal and composition. Here is a field which should furnish opportunities for clayworkers and especially those promoting the use of hollow building tile. Permanent garages, whether for individuals or larger types for commercial purposes, should be fireproof structures. The clayworkers have in their product qualities of fireproofing and of permanence and should be actively pushing these forward as the best and cheapest material in the end for garage building.

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# BRICK AND BUILDING NEWS OF CINCINNATI.



THE USUAL LULL THAT IS customary at this season of the year in building operations is noted here, and the number and character of permits, as well as the reports with the clay products men are all along the same line of thought. The passing year has not been one of great encouragement to the clay industry, any more than it has been helpful to the building industry in general.

There is one hopeful sign, however, that must be looked upon now as promising. There has been some reduction in material costs, the prospects of lower freight rates are much brighter, and the fact that the wage question is being given a wider share of study, indicate that the early part of the coming year should bring about a very desirable change. As one very noted handicap to a larger building season here, as elsewhere, the lack of business in many lines has been an excuse why the owner did not wish to go ahead. But it would seem that this offers a more logical promise, and within a few months, all other things being fully considered, the revival should be of the profitable kind.

The reports among the local brick and clay products dealers show that the past month has not been a very keen one, and as for the outlook nothing of more than an ordinary nature is being counted on. Still there is a feeling of hopefulness noted, and the attitude of the trade is good to see. As one sign that the conditions are better can be seen in a submission of bids on a large school here to be built at West Oakley, which will cost about \$350,000 to \$400,000. The results of the bids received on this job would indicate that the

cost of construction has been reduced about 30 per cent over that of 1919. Several bids for work on this structure have been awarded, so that the work will be started in the near future.

The month of October shows that there were a much larger number of building permits issued than was the case for the same month a year ago. However, the aggregate cost of the projects is less. There were 1,366 permits issued, the estimated cost being \$1,159,775, while in the same month a year ago, there were but 954 permits issued costing about \$1,210,550. Still the first ten months of the present year show a larger number of permits issued with a like increased sum than was the case a year ago, so that it would appear that the conditions are some better.

The recent decision of Rabbi Phillipson with regard to the wages to be paid the various unions went into effect on November 8. It is reported now that some of the unions will not abide by the decision and what the outcome will be cannot be forecast at this time. The sentiment in favor of the changes, however, is large, and there will no doubt be an increase in building operations with the new scale put into effect. This will help to curtail costs, and the result will be beneficial to the prospective builder.

The final decree on the mandate of the United States Circuit Court of Appeals affirming the decree entered in the case of the Portsmouth Refractories Company vs. The Harbison-Walker Refractories Company, Portsmouth, Ohio, has been placed on file by United States District Judge John W. Peck. The defendant is enjoined from obstructing drains, destroying roadways and otherwise interfering with the operation of the plaintiff of its clay mines, and is ordered to pay the plaintiff \$120 as damages for the destruction of a timber road. Mark

Speaking of

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A. Crawford, Portsmouth, Ohio, was appointed by the court as special Master Commissioner to ascertain and report to the court the reasonable cost of drains to carry away surface water caused by the defendant's striping operations. The costs of the district court are assessed against the defendant.

Work will be started soon after January 1, by the J. A. Fay and Egan Company, on its new plant to be built at the southwest corner of Paddock road and the B. and O. S. W., and the N. and W. Railroads, in Bond Hill. The plans are to be selected soon, and the cost of the structure will be about \$500,000. It will be a one-story structure, 300 by 700 feet. A portion of the building where the offices will be located, will be of two stories.

Harry Hake, architect, has been selected to prepare plans for a large addition to the Provident Savings Bank and Trust Company, at the southeast corner of Seventh and Vine streets. The bank has recently acquired more ground in that section, so that a notable addition can be made to the present large building.

The plans having been approved by the Board of Directors of the University of Cincinnati, work will be started before long on the memorial dormitory. There will be three sections of the dormitory, including a large memorial tower, and the sum total will be about \$250,000, the sum having been collected some months ago. The building will be four stories high, with the exception of the tower, which will be five stories. The structure will contain 145 rooms in all. The exterior of the building will be of dark red brick.

The Eyrich Construction Company, Corryville, will spend about \$60,000 in building eight homes for the market at Hill and Epworth avenues, Westwood. The houses will cost from \$7,000 to \$9,000 each.

The reports with the local concerns are not very flattering

at this time, but the feeling is more hopeful for after the new year time.

The Evans Builders Company has been enjoying a fair demand for clay products, including sewer pipe and flue lining, etc., though of late the call has been less keen. Vice-President Rankin stated that the indications for the future were very promising, and that he believed that by spring there would be a very decided improvement in the situation. He was in a hopeful mood, and while the present was not so good, the future looked very fair.

There is little demand for building brick and the operations have been much curtailed in this field here. The Cincinnati Clay Products and Supply Company has closed its plant and finds that the situation is not very good for any line now. Several of the firm will attend the face brick convention at White Sulphur Springs, Va., the latter part of November.

Business is reported to be rather quiet with the D. C. Shorey Brick Company, and the present does not appear to be conducive to a larger demand as the winter season approaches. Mr. Shorey was out of the city on business.

There has been a curtailment of orders noted by the Purcell Brick Company, and another factor was reported here that was not good to see, and this pertained to a kind of competition that was not the favorable kind.

The Builders' Material Company note that the demands are now less active than they were, and there will hardly be much betterment for brick and clay lines for the coming few months, though there was still something to be noted in the way of orders.

The E. F. Grand Brick Company is finding the present a dull period, and the coming of winter is not likely to help the demand either.

CINCY.

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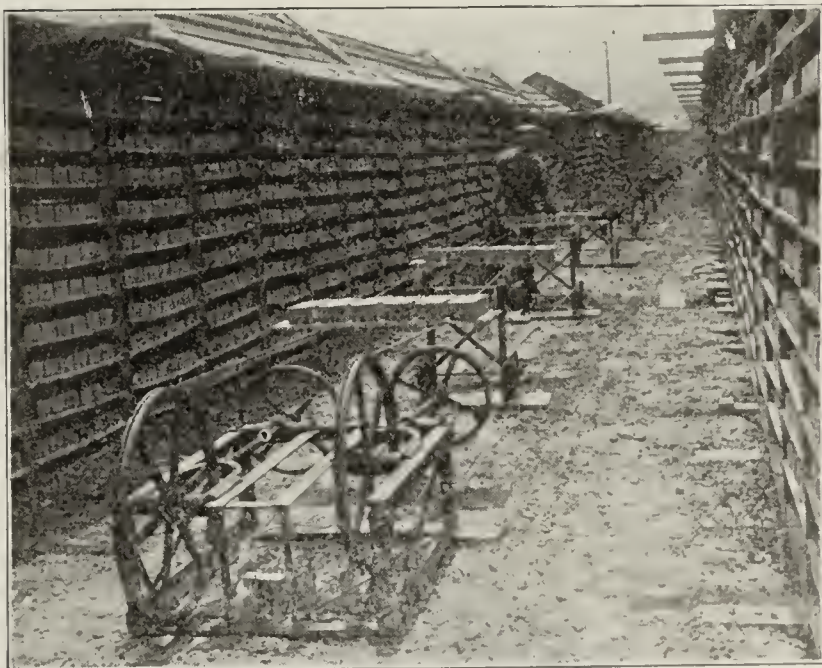
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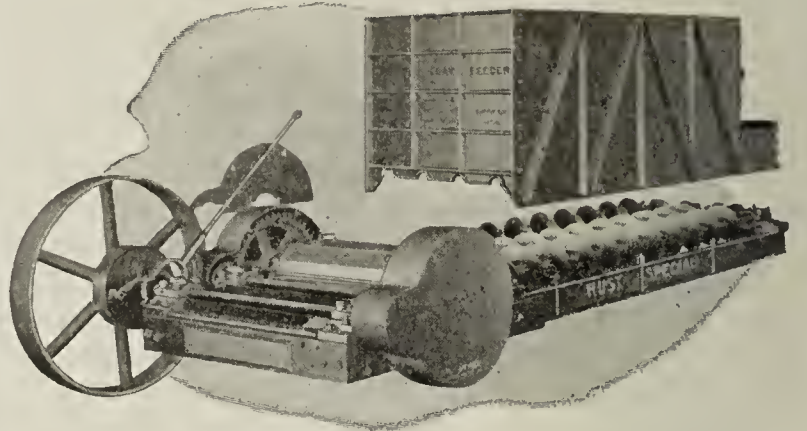
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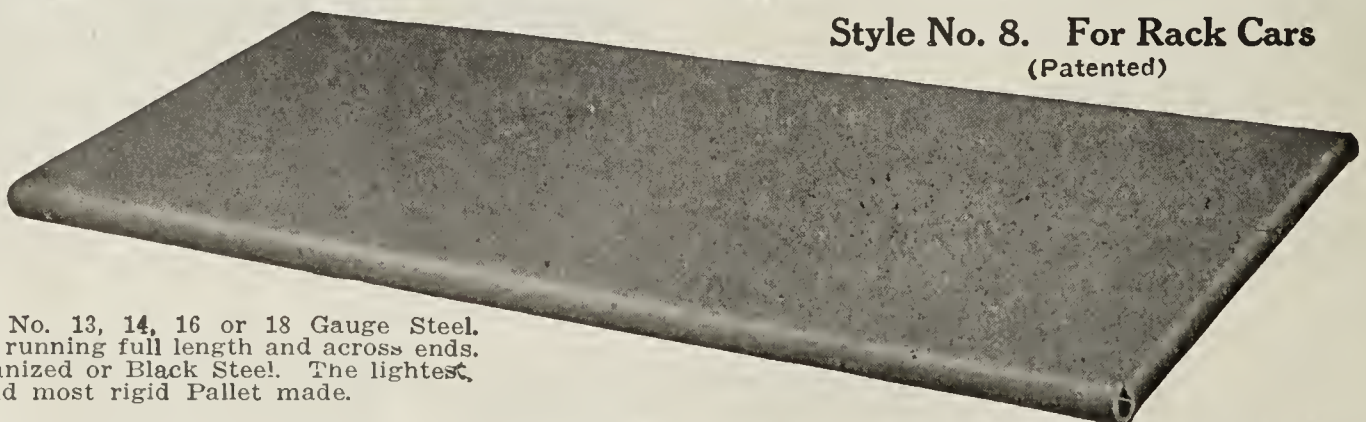
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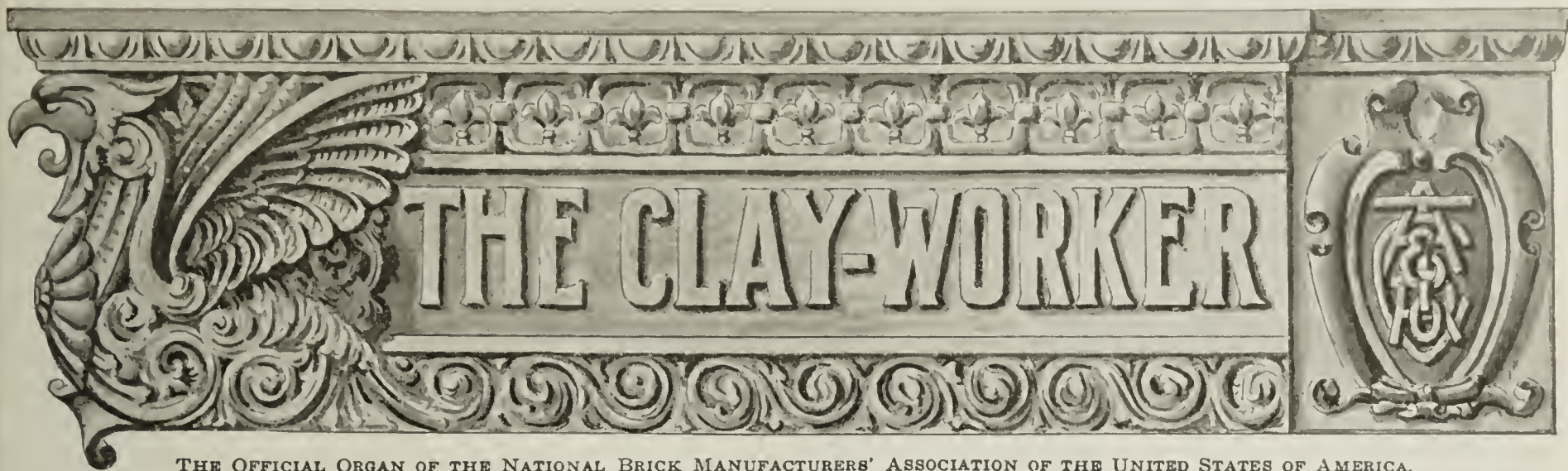


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THE OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

Vol. 76

INDIANAPOLIS, DECEMBER, 1921.

No. 6

# THE CONVENTION CITY

Points of Interest in and About the Hoosier Capital, Where the Clayworkers of the Nation Will Assemble in Annual Convention January 23 to 28, 1922. ❀ ❀ ❀

THE SELECTION of Indianapolis as the convention city for the thirty-sixth annual meeting of the National Brick Manufacturers' Association is held by the majority of the members of the oldest clay products manufacturers organization in this country, as a happy choice. The fact that Indianapolis is the greatest inland railroad center in the world, within a day's ride of sixty million people, easily and quickly reached from any point, seventeen railroads and thirteen interurban lines connecting it with the cities for a radius of hundreds of miles in all directions, makes it a most get-at-able and convenient convention city.

Graphically it is the center of Indiana, and within a few miles of its outskirts is the actual center of population, and also the center of industry. No other city in the country enjoys the peculiar advantages of Indianapolis with reference to raw materials, fuel and power resources, labor and other factors that tend to satisfy and to improve labor, manufacturing sites, social and educational development and home markets, aside from the transportation facilities. All factors point for concentration, manufacture and distribution, in this fine city.

Indianapolis is the economic point of the country, for it is between producers of raw material and users of finished product, wherein manufacture may be conducted progressively, wherein capital may be energized to its widest possibilities and wherein management may exercise its proper functions, free from the ex-

acting cares of a poor location, and with certain support.

It is styled the "Hoosier Capital," "The Convention City," "City of Shade," the "City of Homes," the "City of Literary Talent," and such slogans as "No Mean City" and "There is no Wobble at the Hub" have been clarion calls in drives of various extents and purposes.

Here is located the headquarters of the American Legion, also headquarters for numerous other well-known and recognized organizations that are leaders in their line. Within its area of 43 square miles, there are 1,000 manufacturing concerns, 250 wholesalers, 2,300 retail merchants, manufacturing leading the world in manufacture of quality automo-

biles, in fact there are 780 different products made here and clay products such as terra cotta, floor and encaustic tile are no mean part.

In and about Indianapolis is located the famous brick paved motor speedway, Ft. Benjamin Harrison, The Herron Art Institute, the homes of Booth Tarkington, Meredith Nicholson, and the beloved Hoosier Poet James Whitcomb Riley.

From an amusement standpoint, the convention delegates will find in Indianapolis a vari-

ety that will satisfy almost every desire in this line. Six large theaters and fifty-five cinema houses, including the famous Circle Theater and Loew's State, comfortably seating thousands of people and bringing to the Hoosier Capitol the best in the scenic drama field. The city is really proud



The State Capitol Building of Indiana.



of these two splendid motion picture houses. The Circle Theater, which holds a place unique in the world of theatricals, is located on the Circle facing the Soldiers Monument. Though erected as a picture show house it represents an investment of over half a million dollars. Three thousand one hundred seats are in its colossal auditorium and its gigantic stage, one of the largest in the world, makes possible presentation of stage spectacles and elaborate tableaux, which have made it famous for the production of screened dramas. The new Loew's State Theater is similar in character and ranks among the finest show houses in the land.

The most conspicuous structure within the city is the famous Soldiers' and Sailors' Monument, which for grace and beauty has few equals either at home or abroad. It was erected in memory of Indiana's soldiers of the Civil War, and was dedicated in 1902, since which time it has been the mecca of sightseers and lovers of monumental art from

political and social life of the State. Most of the leading fraternal organizations, such as the Masons, Odd Fellows, Knights of Pythias, etc., have erected imposing structures for lodge purposes, and the various theaters rank among the best in the land. Murat Temple and Theater is a conspicuous example of fraternal enterprise.

Visitors interested in religious affairs will find their chosen denominations represented in one or more of the many churches, the spires of which are conspicuous in all portions of the city. The Y. M. C. A. has a splendid home at the corner of North and Illinois streets where the youth of the city can find wholesome recreation and healthful educational influences. The Y. W. C. A. has an equally attractive home, equipped with every modern facility from a swimming pool to entertainment hall, where working girls find a safe harbor and means of recreation after their day's labor.

#### A Hotel With An International Reputation.

Among the chief essentials of a convention city are



Laurel Hall, Formerly the Palatial Home of Stoughton Fletcher, Which Mayor-Elect Shank Desires to Turn Into a Hospital for Disabled Soldiers.

all corners of the earth. Its crowning figure "Miss Indiana" stands nearly three hundred feet above the street level. A magnificent view of the city and the surrounding country is obtained from the top of the monument, which is reached by an elevator and stairway from the base of the interior of the shaft.

The Federal Building or Postoffice, in which is housed the Federal offices, courts and officials, is one of the finest buildings west of the Nation's capitol. It is located a block north of the monument. The most modern of the city's public structures is the City Library, located five blocks north of the Federal Building. It is in part a tribute to the memory of our Hoosier Poet, James Whitcomb Riley, who, sometime before his death, bequeathed the city a part of the ground on which the building is located.

#### A Great Civic Center.

Being the chief city of the State, it is naturally the center of the educational, commercial, industrial, religious,

good hotels, and in this respect Indianapolis is peculiarly fortunate. There are more than 20 hotels within its confines, the largest and best of which is the Claypool, located at Washington and Illinois streets, four blocks north of the Union Station, just a pleasant walk for the traveler who, after a ride on the "choo choo" cars is glad for an opportunity to stretch his legs, when the weather is propitious. When it is not a trolley car can be taken at the station which passes directly in front of the Claypool. Taxies do the same, of course.

The Claypool is a stately pile, occupying a quarter of a block, is strictly fireproof and affords every modern convenience. Its lobby is one of the finest in the land. The mezzanine floor and parlors are luxuriously comfortable. Its most famous feature is the Riley Room, so called because a birthday dinner was given in this room to the beloved poet, but a short time before his death, at which were





THE HEART OF INDIANAPOLIS—The Famous Soldiers' and Sailors' Monument, from the Pinnacle of Which Miss Indiana Looks Down on "No Mean City."



gathered many of the noted literateurs of the day. The hotel is exceptionally well equipped for convention purposes; its main assembly room, on the eighth floor, will accommodate nearly one thousand people. The writing room and study, located on the main floor, is very inviting, as are its cafes, lounges, etc.

Near the south entrance of the hotel is a bronze tablet, marking the place where formerly extended a balcony from which Abraham Lincoln, during his stay in the city on his way to his inauguration in Washington, made an address to the people of the Hoosier Capitol. The tablet bears the following inscription:

Abraham Lincoln on his way to Washington to assume the Presidency, in an address said, "I appeal to you to constantly bear in mind that not with politicians, not with Presidents, not with office seekers, but with you, is the question,

guests, a real Hoosier welcome awaits every member of the N. B. M. A. and those who will accompany them to the coming National Convention, January 23 to 28. Additional information as to the industrial, commercial and social features of the city will be given in a subsequent announcement.

#### BE YE GOOD TO ONE ANOTHER.

HERE COMES in the correspondence of the month a letter which serves to remind us that now is a good time to preach that golden rule doctrine of being kindly or good toward the other fellow, just as you would like to have him be good to you.

A brick manufacturer complains because after he has secured a contract to furnish brick for a school-house another



A Glimpse of the Famous Brick Paved Motor Speedway, Indianapolis.

Shall the Union and shall the liberties of this country be preserved to the latest generation."

#### A Great Convenience for Travelers.

All the railway trains enter the Union Station, a decided convenience to the traveling public. In normal times, nearly two hundred trains arrive and depart from this station every day. It is claimed no other city in the country has interurban service equal to that of Indianapolis. There are 634 interurban cars entering the city daily, all of which run into the Interurban Station, which is a block north of the Claypool Hotel, and which is the greatest station of its kind in the world, having been built at a cost of \$1,000,000. In addition to being the terminal for all interurban lines, it is one of the finest office structures in the city.

The "Convention City" each year welcomes within its gates many great gatherings, such as the Grand Army of the Republic which, for the first time in its history, held its annual encampment here two years in succession, 1920 and 1921. Hoosiers know how to welcome and entertain their

brick man addressed a letter to the school board in which some unpleasant and unkind things were said about the first brick man. Now naturally the first brick man is peeved over it, and expresses the thought that such an attitude is detrimental to the brick business. He also expresses a request that we publish copies of both letters. We refrain from publishing the letters in detail because we fear they would serve to aggravate ill feeling, the very thing we are striving to eliminate in the brick industry. We have a slogan in the N. B. M. A. to the effect that there are no bad brick. There are good brick and better brick. The same thought should apply between brick men engaged in the business. They are good men and better men, and the aim of all should be to strive for better and more friendly relationship, and certainly to refrain from saying unkind things about each other, and especially about each other's products to prospective buyers.

It is time for competitors in the brick business to look upon and treat each other as friends in a given calling instead of taking the stand that they are enemies in a battle for trade.



And if one thinks he sees a flaw in the doings of his neighbor the proper thing is see that neighbor, talk to him about it, and not write letters to customers seeking to play up these faults. Such letters to customers do harm, perhaps most harm to the man who writes them, as well as create doubt of the man written about.

Don't do it; be friendly. Or, if you can't be friendly, at least be fair and square to each other and help give to the world an impression of fairness and squareness in the brick industry as a whole.

Written for THE CLAY-WORKER.

## THE ORIGIN OF BRICK.

No. 3.



**B**RICKMAKING was the chief labor of the Israelites during their bondage in Egypt. The sun-dried brick are still made in Egypt on the banks of the Nile, in the old manner of treading clay by foot. The material taken from the banks of the Nile still requires straw to prevent checking in drying as of old, but the clay from the Torrent bed, on the edge of the desert, requires none and makes a much stronger and better brick.

According to the custom of the country, Pharaoh would provide places to procure this straw, or furnish the straw from the royal domains, and from the magazines of a fifth part of the other fields. When the number of these captive Israelites became so great Pharaoh refused to furnish any straw, requiring them to procure their own, and if their daily "tale of brick" fell short they were punished together with the task masters. The Egyptians harvesting their grain would only cut the heads off, leaving the stalks stand, the greater part of this was used for fodder before it became too dry, but the captives had a right to gather these stalks of straw and stubble after the fodder had been used, at their leisure time, as Pharaoh said, "They were idle."

Owing to the scarcity of stone in Babylonia, brick was the only favorable building material, stone only being used for certain work, such as ornamentations of edifices, thresholds, window and door caps, and window sills. In Egypt rain is very scarce, so the buildings of sun-dried brick have a great durability. The climate in Babylonia being the opposite, their construction work is much heavier and more solid. They built walls of enormous thickness. The great wall Nebuchadnezzar built at Babylon was very thick at the base and the outer courses on both sides were of burnt brick while the center was sun-dried. This burning of brick led to a very high development in the art of glazing and coloring brick, while in Egypt the art of enameling was developed, and made great use of.

Numerous remains of buildings of various kinds exist, constructed of sun-dried brick, of which many specimens are to be seen in the British Museum with inscriptions indicating their date and purpose.

The representations of brickmaking which are to be found in Egyptian wall pictures are very instructive. They not only show the process with great clearness, but also illustrate most vividly the serfdom of the Israelites on Egyptian ground. The most famous pictures represent foreigners at work superintended by Egyptian "task masters" armed with sticks. Among the paintings at Thebes is found one representing the enforced laborers at work making brick, these laborers are distinguished from the native laborers by the color in which they are drawn. Watching over them are "task masters" who, armed with sticks, are receiving the "tale of brick" and urging on the work.

The Egyptian kings employ these natives and captives in

building enclosures of gardens and granaries, sacred circuits encompassing the courts and temples, walls, towns, fortifications, dwelling houses and tombs, in fact everything built of brick except the sacred temples.

Meanwhile the Chinese developed brick to such a perfection that the olden brick are in a good state today. Brick are made in great numbers in many parts of the empire now, as in centuries past. They remove the upper soil on most clay, although on some clays this soil is worked in, as the clay is very fat. The clay is tempered or kneaded by boys leading animals forth and back in these clay pits for hours to thoroughly prepare the clay. When mixed the clay is moulded in wooden boxes then placed on racks to dry. To protect them from the inclemency of the weather these racks are covered with long mats sometimes under tile roofs, and the poor brickmakers cover them with straw. When dry they are placed in kilns and burnt. The largest kiln in



Merchants National Bank Building—A Fine Red Brick structure, the Tallest in Indianapolis.

China is at Yon-ton. The fuel is quite expensive and they are unwilling to burn the brick as hard as they should be, but when the brick are burnt and made properly they sell for about three times the price of the common brick. The common cheap soft brick are very porous. If skilled brick-makers are employed the owner must furnish a man to carry the necessary water, also furnish his tea and tobacco.

The Chinese brick are usually a blueish gray color, and are so made by pouring water on the crowns of their porous kilns, allowing the water to drop through, which creates a steam that acts on their burnt ware.

Near a small hamlet a little west of Kiang-ying a rare discovery was made of brick manufactured centuries ago at an ancient grave. The exposure of the weather had washed part of the mound away exposing the tomb built of brick. There were impressions of old coin on each of the four corners of the brick.

The great wall was built of brick and gravel about 214



B. C. and is between 1,250 and 1,500 miles long. The foundation is made of granite, the side walls of brick, and stone where it is accessible. The wall is 25 feet wide at the base; 15 feet wide on top, and varies in height from 20 to 30 feet, with towers for lookouts 30 feet above the top of the wall. The walls are built of two parallel brick walls, the space between being filled with earth and stone tamped in very solid, the top of this fill is paved with brick. The brick used in this wall are  $22\frac{1}{2}$  inches long and 11 inches square, all laid in the wall as headers, making it  $22\frac{1}{2}$  inches thick,

all brick being laid in lime mortar. There are 73,683,000 Chinese brick, or equal to 3,131,527,500 of our brick, used in 250 miles of this wall. All brick being made 30 miles from the wall and transported to the wall by human carriers then distributed along the wall. During the building of this wall Emperor Che-Hwang-ti ordered the wholesale destruction of books, and any person having a book in his possession thirty days after issuing this ordinance was branded and sent to serve four years labor on the great wall. Any offense of any nature was punished by labor on the great wall.

# A STUDY IN CLAY PRODUCTS

## A Discussion of the Progress During the Past, the Trend of Events and Prospects of the Future.

THE PURPOSE of the present discourse is to make a study of the progress of the clayworking industry that we may understand better the trend of events and the prospects of the future. Usually with the first of the year, with the closing of the books and the balancing of accounts, there is a turning to wider preparations for the season ahead and a sizing up of the possibilities for trade to get some definite idea of the measure of preparation which should be made, and of the possible extent to which the industry may need be enlarged to serve the trade and make rational progress. Now and then too we have official government reports which statistically chart the progress of the industry, and which may be variously interpreted to mean good times or bad, to make progress forward or backward, depending some upon the viewpoint and reasoning of those handling the figures, and the understanding of conditions surrounding them.

### A Bit of Cold Fact.

As a matter of cold fact the progress of brick, hollow building tile and other clay products is determined largely by the progress of evolution and the relative standing of this material in comparison with other offerings for similar purposes. We concern ourselves largely with the progress and use of brick, hollow building tile and other burned clay products in building operations and we center quite a lot of our thoughts and efforts on home building. Also we advocate, and properly, too, that the best home is the home built of brick, hollow tile or some other burned clay product, because these stand for safety against fire and against the ravages of time. The argument is good, but it is not the only argument offered the home builder nor is it the only influence brought to bear in determining the choice of material in the matter of home building.

### Evolution of Home Building.

Home building is largely a matter of evolution, and in each generation and locality the process of evolution is determined largely by the available materials at hand for men to use in providing themselves with that form of shelter we call home. It is a fundamental fact that we must accept and should keep in mind that the average man when he turns to the work of home building will use that material which under his own conditions seem best adapted to meet his needs. Thus the pioneer in the wooded section of the United States built his first home of logs, logs from small trees which he could cut down and handle, and with the aid of his neighbors fashion into four walls and cover with a roof. Later when they had means for converting the larger trees into lumber this gave him economy in both timber and effort

and a more satisfactory structure in several respects, consequently the frame house succeeded the log house where timber was available at less cost than other materials. By and by in the process of evolution timber will become so scarce and valuable that the economy in labor and first cost will not weigh sufficiently against the permanence and advantages of clay products. And as we reach this stage homes will be built with brick and hollow tile and so will various other outbuildings, including barns, granaries and houses for livestock.

These are changes which do not come suddenly and which involve natural fundamental things that no amount of argument or advertising can materially alter. We may as well face this fact, not as an argument against advertising, but as a fundamental feature in the progress of clay products. We should and must actively exploit clay products for building purposes, and the time seems ripe now to get effective results from such exploitation because we are at that stage in the process of evolution in home building where the advantages even in the first cost are turning toward clay products and this makes them the logical choice as well as the best material with which to build from the viewpoint of permanency and safety against fire loss.

### The Cost Burden as a Factor.

We should, however, keep persistently in mind not only that man builds his home with that material which at the time being seems most suitable. Just as the pioneer in the timber regions built his log cabin so do people in treeless regions where there is but little rain build houses of sod or dirt or grass, while others who find this will not stand turn earlier to the burning of the clay to make it permanent, thus starting in on the brick building earlier than those which are not forced to it by necessity. After all, it is necessity which not only mothers many an invention, but which often guides the ship of progress. And what many regard as a necessity today is the finding of a more economical or less expensive means of building homes and other structures. The cost of shelter today is a burdensome thing to humanity. We have this reflected in complaints about high rentals. One reason for high rents is high building costs, and it is this same reason which held back building operations in the latter part of 1920 and the first part of 1921. Conditions have been relieved some, but we are still facing a situation where the cost of building today is nearly double what it was eight or ten years ago.

### A Question in Progressive Economy.

Now then, just so long as building costs are felt to be burdensome, just that long will mankind seek for ways and



means to erect that form of shelter called the home in whatever manner and with whatever material will offer him some relief from what is considered an excessive burden of cost. The object in bringing out this point now is to show that it has direct bearing upon the progress of clay products. It is a situation which furnishes wonderful opportunity for materially enlarging the percentage of clay products used in home building if we can furnish these products and get them put into the walls at a favorable cost in comparison with other available materials for home building. This is the big problem facing the industry today and it is one which should have serious attention. The clayworking industry should concern itself with ways and means for producing brick and hollow building tile at as low a cost as is consistent with good business and a fair profit. They should seek for this not through price cutting wars which mean lack of profit, but through greater economy in manufacture to the end that we may make possible prices that will yield a fair profit and make for steady growth of the clayworking industry.

There enters here too the problem of getting the brick and hollow tile laid into walls at reasonable cost. This is a problem of construction industries and one over which the clayworking industry itself has no direct control. It has an interest in it, however, because the cost of putting the materials in the wall plays an important part in determining whether or not these materials will be used. Therefore the clayworking industry may well take an active interest in helping solve the problem of more economical construction with clay products.

#### Clay Products Will Progress.

There need be no question in the mind of anyone in the clayworking industry but what clay products will continue to make progress, unless there is devised or invented some new competitive material which offers more advantages for less cost, a thing not at all likely. The rate of progress of brick, hollow building tile and other clay products in home building and in other structural work will depend upon several factors. These include advertising and salesmanship, and the factor of comparative advantages in cost, both in material and of construction. The home builder in considering cost figures his cost in units of the finished structure rather than in simply the materials of construction. That is why we see today quite a percentage of new homes which have frame walls and an outer veneering of face brick.

#### Brick Veneering.

The frame wall veneered with brick marks an interesting step in the evolution progress of home building in this country. We have had some of it for 20 years or more. The early experimenters with brick veneering were not sure of their grounds and were looked upon with doubt. There was some feeling that it was falsifying structures by making a building seem to be of brick when as a matter of fact it only had one thickness of brick on the outside. From a structural viewpoint, however, the frame house veneered with brick has made a good showing and it is today marking an important step in the progress toward brick and hollow tile wall construction. It consists essentially in building frame walls similar to that used in wooden houses except the foundation is made more rugged and is extended some six inches or more outside the wall frame. The frame and studding is usually covered with sheeting and this again with a roofing or building paper and the facing of brick is built up outside of this, leaving a space between it and the frame wall of an inch or an inch and a half, and is tied to the frame wall with metal ties nailed to the wall and extending between the joints of the brick. Usually provision is made in the construction for the settling of walls and the

frame wall veneered house has stood the test structurally. The main objection to it is that it leaves it threatened with the same fire hazards as a wooden building so far as inside exposure is concerned, but the outer brick veneer does offer some protection from outside fires.

#### A Case of Half Loaf, Plus.

From the standpoint of the brick manufacturer and the brick dealer the brick veneered house is a case of half a loaf being better than no loaf, plus encouragement and progress toward the use of clay products entirely in the wall construction of homes.

It is an interesting fact too that there has been quite a revival in brick veneer work during the past year. It had a run early but about the time the war came along there was a disposition to pass from brick veneering to solid walls of brick or walls of hollow tile and brick veneering to solid walls of brick or walls of hollow tile and brick. The war piled up prices and costs until home building became so burdensome that there was a natural seeking of avenues of relief. One of these is found through building a combination of frame and brick veneered wall. The probabilities are too that we will have considerable of this during 1921, and this will mean that we will have a better market comparatively for face brick than we will have for common brick used in the body of wall construction.

#### Home Walls of the Future.

By and by in the course of time we will likely pass entirely from the stage of merely facing walls with a veneer brick, and take up the better plan of building walls either of solid brick, of face brick and hollow tile, or hollow tile making its own face. We will reach the period eventually when clay products will not only be considered as the best building material, but they will be considered as the most desirable in the matter of first cost as well as for the qualities of permanence and fire prevention. That is the goal in the progress of evolution which we are working toward. And at present there seems no question but what we will attain it in time. Moreover there is no question but what the clayworking industry is making steady and persistent progress. People who argue that it is not, that it is on the decline and threatening to die out, are talking tommyrot. Production may vary from year to year, so may the number of industries, but the fact remains that in the building material world brick, hollow building tile and other clay products are making steady progress and will continue to make progress at a rate comparable with the devastation of our forests and the necessity for mankind to use other and better material for home building. And while the ideal goal will include clay products as a whole, not only in the walls of homes but in barns and other outbuildings, we need not expect to attain all this at once in the face of such adverse conditions as burdensome cost. The veneered brick home represents one of the intermediate steps in this process of evolution which has been a factor of importance in the past year and will likely be quite a feature in building during the year 1922.

#### THE BABSON CYCLE.

Babson, the statistical man is quoted as charting the business cycle of the country into twelve stages and saying that we are now largely in the sixth stage.

The twelve stages as set forth in this charting are as follows: (1) Peak of prosperity, (2) Inefficiency, (3) Dishonesty, (4) Crime wave, (5) Lack of confidence and unemployment, (6) Consolidation of homes and decline of real estate prices, (7) Increasing thrift and lower money rates, (8) Greater efficiency and greater land prices, (9) Increasing religious interest, (10) Buying resumed, (11) Activity in all lines, and (12) Prosperity.



# ASSOCIATION IN BRICK TECHNOLOGY

## Some Pertinent Facts Regarding the Brick Industry as a Whole and Some Suggestions in Regard to Building Up Association Membership.

EVERY THINKING MAN interested in the advancement of the art of brickmaking should need no argument to convince him of the value of association with his fellowcraftsmen in the study and investigation of problems involved in the technics of the art and of the need of conventions of such associations for the illustration and discussion of improved methods of manufacture, for the planning of further researches and for the presentation and discussion of the results of such researches. No bulletin or trade journal can take the place of a convention platform as a forum for discussion, nor of personal contact and social intercourse of manufacturers in convention as an inspiration for betterment.

There is a difference of opinion, however, as to the most practical and efficient form of association and, with many, an indifference on the whole subject of associated effort, or a disinclination to part with a few dollars annually for their own education or for the advancement of the industry in which they are engaged. How can we arouse our fellow brickmakers to a realization of the importance of association work, that they may see their duty in this and do it? This question and the more complicated question, what form of technical association can accomplish the greatest good to the greatest number in the brick industry, can do the most in bringing about an improved product and a lower cost of production, are appropriate subjects for discussion at this time.

Let it be noted that the term **technical** is used as distinct from **commercial** in designating an association for the study and discussion of the problems of **manufacturers** rather than the problems of **merchandising**. There are two such technical organizations in the field, the National Brick Manufacturers' Association and the Heavy Clay Products Section of the American Ceramic Society. In this issue of *The Clay-Worker* consideration will be given only to the first question, how can the advantages of a technical manufacturing association best be presented to the brick manufacturers of America and to all occupied in technical or commanding positions in the industry, so that the membership in such associations will be greatly increased? The larger the membership, the more men who are interested in the work, the greater the good that can be accomplished. Moreover, the larger the membership, the larger the revenue and with a larger revenue the better the work of the association can be carried on. No association, of any kind, can properly carry on its work without some one making a business of looking after its activities, that is, without a secretary paid to give his time to it. It takes time and money to secure new members and to keep up their interest and their membership in the association.

Perhaps it may be thought that if my first sentence in this article is true and generally accepted, there is nothing further to be said. Possibly the statement is too broad, yet I doubt if the truth of it will be questioned by any one who reads this. So much has been said and written, so much has been published in our journals of the advantages of association, and our secretaries have so vigorously circularized, and membership committees have so earnestly solicited, that it would seem that every man in the brick industry would

know by this time that he owes it to himself and to his fellow craftsmen to join and support the associations that are working for the accomplishment of things that individual effort can not accomplish, for the elevation of his art and business to a higher plane, relieving the drudgery, reducing the waste, eliminating the uncertainty, improving the product and reducing the cost of manufacture. Yet, how many, even of the readers of *The Clay-Worker*, are contributing nothing to this, and are not members of any brick association! How many more brickmakers, perhaps, are not even subscribers to any journal of our industry? I do not know, but I can not comprehend how any man can neglect to avail himself of the manifest advantages of industrial association, how he can weigh the small annual dues against the good to be accomplished. That there are so many men of narrow vision in our industry, I do not like to admit, yet how else can be explained the small membership in our associations? The only consolation I can get in looking over the membership lists is that the largest and most successful brick manufacturers in America are active members of one or more of our associations. The problem is how to reach the others. We want to get hold of the small manufacturer and help him, if not to be a larger manufacturer, at least to be a more successful manufacturer. We want to reach the superintendents, the foremen and the burners, upon whom every manufacturer must depend for the success of his business. How can this be done?

In the first place, the present members must, for a time, contribute more of their time and money. The commercial organizations secure a large income by an assessment upon the sales of its members. Manufacturers are willing to pay such assessments, as they know that, by general agreement, they can add enough to the price of brick to bring it all back in a few months. But the technical association can not be supported that way, its revenue must be derived from small annual dues. The technical association, however, should have a much larger membership than the commercial association, since it is not restricted to those who have money invested in brick manufacture, but is open to all who are interested, directly or indirectly, in the manufacture of brick.

Evidently there should be two classes of members in our technical associations, individual members and corporate members. The annual dues of the corporate members should be four or five times that of individual members. The dues of individual members must be low, not more than ten dollars a year, since we want to reach those of small incomes who have practical, technical knowledge of manufacture. Therefore, it seems to me that one of the first things to be done by the N. B. M. A. (The A. C. S. has already attended to this) is to amend our by-laws so as to provide for the two classes of members and the dues of each.

With the larger income thus provided, the next step is a systematic effort by a paid secretary, working with a membership committee, to secure a larger membership. This means a lot of work, but it can be done.

The next thing is to make our annual conventions still more interesting and profitable. This means that we must have even better programs and give more time to them. No association should divide its time in convention with another



association. Each association should meet at a different time. The American Face Brick ssociation, a model of a commercial organization, has followed the right course from the start. The National Paving Brick Manufacturers' Association also has met separately for a number of years. The Common Brick Manufacturers' Association is starting out this year alone. So, the two technical associations, the National Brick Manufacturers' Association and the American Ceramic Society, should continue to hold their annual meetings at different times.

All associations are, and should be, in part, social, a little play with the work, giving an opportunity for members to become acquainted and form those friendships that all older members treasure so highly. But the fact must be kept foremost that the main purpose of the meetings is educational, to add to our knowledge of the art of brickmaking. The papers and discussions must be along lines that will enable us to improve the quality of our products or to reduce the cost of manufacture. This means that the man who comes before the convention with a paper must do a lot of work in the preparation of it. And let it be remembered that when a man has been invited and has consented to make such a contribution for our benefit, it is the plain duty of all of us to give him our undivided attention. He is surely entitled to this courtesy. Thus a convention is chiefly a place for work, if it is to be of the most value, a place where every man must do his part. Have you not noted that those who say that the N. B. M. A. doesn't accomplish anything are the ones who never themselves take part in our programs, probably never even read the convention reports and do not even contribute the amount of the annual dues. The N. B. M. A. is **your** association. What are you doing to make it more helpful to the industry? If you do not like the way the association is being run, come in and help to make it what you think it ought to be.

I want, especially, to appeal to the owner, stockholder or officer of a brickmaking establishment. You are probably a member of one or more of the commercial organizations, one of the avowed objects of which is to promote the use of your products by advertising. This is commendable and is doubtless worth all you are paying for it, but do you not know that there is another way to increase the use of brick—**make better brick at less cost**. It is obvious that a poor job of brick leads to the use of other materials instead and injures the whole industry. Also, it is true that the lower the price of brick, the more brick there will be used. There are vast possibilities in more economical brick manufacture. Is it not worth while for you to sustain the only associations that are working to this end, since the cost to you is so much less than the cost of advertising that the small annual dues do not cut any figure. I am mindful of the generous contributions that are now being made by the commercial organizations for research work and I hope that it will be found so profitable that this help will be continued. Did your money help in this?

I have taken an active part in both the technical and the commercial associations and have given much thought to the benefits to be derived from both and I firmly believe that the money spent in supporting the technical associations will continue to bring larger returns on the investment than any other form of associated effort by brick manufacturers. I use the word brick as a general term to designate all structural clay products, common brick, face brick, paving brick, fire brick, hollow building tile, fireproofing, drain tile and sewer pipe.

W. D. RICHARDSON.

MILLIONS NOW AVAILABLE FOR ROAD-BUILDING—  
EVERY FEDERAL DOLLAR TO BE MATCHED  
BY A STATE DOLLAR.

**S**EVENTY-FIVE millions of dollars are now available as federal aid for road construction in the various states, the money to be spent under the supervision of the Bureau of Public Roads, Department of Agriculture, under the new federal highway law. In addition, \$15,000,000 is appropriated for national forest roads. The \$75,000,000, furnished by the national government must be matched, dollar for dollar, by the states. Here is how the money has been apportioned among the 48 states:

| State.            | Allotment.     | State.                         | Allotment.     |
|-------------------|----------------|--------------------------------|----------------|
| Alabama .....     | \$1,553,420.67 | Nebraska .....                 | \$1,581,189.50 |
| Arizona .....     | 1,053,281.44   | Nevada .....                   | 953,436.78     |
| Arkansas .....    | 1,254,142.20   | New Hampshire..                | 365,625.00     |
| California .....  | 2,462,098.53   | New Jersey.....                | 942,870.95     |
| Colorado .....    | 1,341,175.69   | New Mexico.....                | 1,189,823.34   |
| Connecticut ..... | 480,897.78     | New York.....                  | 3,696,447.97   |
| Delaware .....    | 365,625.00     | North Carolina..               | 1,709,333.90   |
| Florida .....     | 886,825.69     | North Dakota....               | 1,164,714.42   |
| Georgia .....     | 1,997,957.58   | Ohio .....                     | 2,823,001.05   |
| Idaho .....       | 938,536.68     | Oklahoma .....                 | 1,752,339.44   |
| Illinois .....    | 3,246,281.07   | Oregon .....                   | 1,182,663.90   |
| Indiana .....     | 1,958,855.41   | Pennsylvania ....              | 3,398,953.97   |
| Iowa .....        | 2,102,872.74   | Rhode Island....               | 365,625.00     |
| Kansas .....      | 2,102,281.51   | South Carolina... 1,061,237.34 |                |
| Kentucky .....    | 1,417,178.68   | South Dakota....               | 1,204,060.31   |
| Louisiana .....   | 996,989.64     | Tennessee .....                | 1,647,692.24   |
| Maine .....       | 695,160.25     | Texas .....                    | 4,425,172.41   |
| Maryland .....    | 640,629.01     | Utah .....                     | 849,417.21     |
| Massachusetts ..  | 1,096,176.04   | Vermont .....                  | 365,625.00     |
| Michigan .....    | 2,249,532.43   | Virginia .....                 | 1,456,828.47   |
| Minnesota .....   | 2,123,597.07   | Washington .....               | 1,103,709.77   |
| Mississippi ..... | 1,294,906.22   | West Virginia... 802,359.77    |                |
| Missouri .....    | 2,448,128.62   | Wisconsin .....                | 1,894,815.86   |
| Montana .....     | 1,546,885.82   | Wyoming .....                  | 934,617.63     |

Each state must select a connected road system not exceeding 7 per cent of its entire road mileage for improvement with federal aid. This system will be divided into two classes—interstate highways and inter-county highways. The interstate highways must not exceed three-sevenths of the system selected, and the inter-county highways will consist of the remainder of the system selected.

All highways in the interstate system must have a surface width of at least 18 feet, unless a narrower width is deemed permissible by the secretary of agriculture. In case a federal aid highway is not properly maintained by a state the state will be given ninety days' notice by the department. At the end of that time if the highway is not in good condition the secretary of agriculture will maintain it out of the state's allotment and refuse to approve new projects until reimbursement is made by the state.

What the new appropriation will mean to the paving brick and concrete manufacturing industries is shown by the fact that, under the old appropriation of \$465,352,517 (national and state combined), of over 27,000 miles of roads completed on October 31, 1921, over 14,000 miles are surfaced with brick, concrete and bituminous concrete. It is expected by the Bureau of Public Roads that the same proportion will hold good on all the projected highways. The selection of the road-making material, according to the Public Roads Bureau, will depend upon the accessibility and availability of materials at points where the roads are to be built. Where brick is found to be most available at certain places brick will be used, and where concrete appears to be the easiest obtained and most advantageously priced this material will be there used. The average cost per mile of the roads built with government aid has been about \$17,600.



## OF INTEREST TO DRAIN TILE MANUFACTURERS



### A SQUARE DEAL IN FREIGHT RATES ON TILE.

**D**URING THE LAST few days most of us have received letters from passenger agents calling attention to the excellent train service to St. Paul provided by their company, and soliciting our patronage in attending this convention.

Stranger still, traveling freight solicitors have again appeared and are actively soliciting shippers for the routing of business via their lines. These unusual occurrences indicate that railroads need business, both passenger and freight.

Any shipper or consignee can now get the ear of traffic officials and will be extended every courtesy and great pains will be taken to thoroughly develop the case, that the trouble may be adjusted.

These are indeed favorable indications, in view of the attitude of the transportation lines during recent years, but when it comes to reducing rates, one is told politely—but firmly—that it simply can't be done, but that if errors exist, corrections can be made and discriminations may be removed within their immediate authority, providing that complaint is properly prepared and lodged in due form with the committee having jurisdiction. The case will then be docketed and a hearing arranged for and eventually, if competently pressed, these injustices may be remedied.

Drain tile is an agricultural commodity, although considered by railroad classification and rate committees along with brick, building tile, fireproofing and sewer pipe and with the latter takes higher rate than the other products mentioned.

By reason of its influence on food production the government very wisely encouraged the use of drain tile during the war, and curtailed its production only 25 per cent, brought about in reduced coal consumption. Furthermore, during the extreme car shortage, the government aided shippers of drain tile in securing transportation requirements.

With the general freight rate increase, drain tile rates fared even worse than had been contemplated or intended by the government or the commission, as in many instances so-called commodity rates, which were, in fact, shortline class rates, were cancelled and set up as high as permitted just prior to the general percentage advances, so that instead of

being advanced 35 to 40 per cent they were actually advanced in many instances 50 to 60 per cent. That was not a square deal, or at least it is not a square deal to maintain these rates on that basis.

There is some prospect that this situation may be corrected and the matter is now having attention.

The extraordinary high prices of farm products during the past few years, coupled with the tremendous influences which drain tile exerts in increasing food production, served to sustain the demand for drain tile, regardless of the high transportation cost and not until the values of farm products began to shrink was the industry seriously injured.

The attitude of the railroads has been to charge what the traffic would bear, and unfortunately during the period of great transportation demand, they incurred such enormously increased operating costs, that since values have shrunk and traffic has diminished, they still bear the burden of these unnecessarily high operating expenses, further aggravated by having made obligations based on these increased rates, reduction of which, would at this time technically jeopardize the security, thus making it extremely difficult for them in the circumstances.

In times of danger any industry is resourceful enough to offer good argument as to why their particular commodity should be given better classification and lower freight rates, and it can show how such reduction would not only save the industry but would result as a benefit to the public as well as the carriers making the lower rate, and the drain tile industry is no exception.

We believe that as a business proposition and regardless of such arguments as may temporarily justify present rates, that the railroads could well afford to offer encouragement to tile drainage by establishing lower rates, as was once their policy, and that if it were possible to present the facts informally to the heads of the lines, that serious consideration would be given to the far reaching effect of such a reduction and that they would obtain some idea of the very great influence which tile drainage has on transportation demand, and that we might get somewhere in our efforts.

The drain tile industry is a very large consumer of coal and when the market for tile is destroyed, the railroads, of course, cannot haul coal to the producers.

The revenue on drain tile itself is not a small item and



the business has been solicited by all roads vigorously for years and must, therefore, be considered desirable traffic.

The rates have been raised several times prior to the war increase periods and in each instance the excuse was offered that the increases were made necessary on account of breakage in transit, and not because the rates were not remunerative. The several advances having been predicated on the reason stated it would seem as though that particular feature had been adequately attended to, the subsequent advances having been made on account of high operating costs.

Mention is made of this at this point because any meeting of shipper and traffic official is incomplete without the matter of breakage being brought up at least three times by each railroad representative.

We maintain that instead of railroads discouraging the use of drain tile by maintaining high rates that they should make every effort to encourage the use of drain tile, as purchasing power of any community is governed by the value of the land in that locality and as the value per acre increases so does the demand for every article used by a prosperous section, all of which demand requires transportation service.

For every car of drain tile shipped to a railroad station there is a subsequent annual transportation demand for several cars in handling the increased production resulting from the use of the tile.

Then follows the transportation of farm machinery for developing and farming the new productive acres, fertilizers to quickly prepare the soil, the increased amount of materials required to construct elevators, barns, sheds, silos, and other improvements now needed to handle the increased crops. The transportation of horses, cattle and hogs, and with these increased demands, comes the increase in population, the growth of villages, and cities, with the improvements required in urban communities, such as pavements, sewers, water supply and public service improvements, and the increased passenger business attending such development.

A little illustration as to what drainage means to the railroads in only two items of transportation, corn and oats:

In 1905, the state of Iowa had 9,542,956 acres in corn.

In 1914, 9,794,437 acres, an increase of 251,481 acres.

In 1905, the acreage produced 246,577,988 bushels of corn.

In 1914, the production was 397,117,376, an increase of 150,539,388 bushels.

In 1905, the acreage in oats produced 134,150,609 bushels.

In 1914, the acreage in oats produced 178,330,591 bushels, an increase of 44,179,982 bushels. The transportation requirements of 1914 in handling the increased production of corn was over 300,000 carloads of oats, 73,000 carloads, or a total of 373,000 carloads more than in 1905. While this was not entirely on account of a new acreage, it was because of new acreage and old acreage whose production had been increased through the use of drain tile.

The buying power of the farmer is only slightly less than 50 per cent of the total, so when he stops buying the depression is quickly felt.

Lower freight rates on drain tile will revive business immediately. Mr. Schwab says, "Mr. Carnegie's original formula for business success is to 'Be fully prepared for the better times which never yet have failed to come to this great growing country.'" Remove the barrier of high freights and the American will promptly prepare.

We appreciate that business and sentiment do not go well together, but the freight rate situation as now handled is altogether too cold-blooded an affair. The present methods, developing from continual controversies over rates, means a clashing of shippers, attorneys with railroad attorneys, a presentation of particular rates appearing to put a favorable aspect on the side of the party offering that bit of evidence, but which may not at all indicate the true situation generally. One may be able to convince the ordinary traffic official, with whom you make argument, of the advantages to the carriers derived through lower freight rates on drain tile, but before he can obtain the necessary nerve to recommend favorable action to his superior, he will wander off into per ton per mile statistics, so indelibly has this term become fixed into his mind.

Instead of friction, there should be friendliness, but as presently handled, the really big items, as enumerated before, are entirely missed. These large considerations were not

overlooked in the days of Mr. Hill, Mr. Harriman and the other fearless empire builders. These men had vision and judgment and aided in preparing the Great West for development and they laid the foundation for the most wonderful prosperity any nation ever enjoyed.

With all due respect to the quality of the great minds who now control our large transportation companies, it does seem that they contemplate today only, with no thought of the morrow and their attitude toward drainage indicates a belief that maximum development has been obtained and their interpretation of drainage is to drain out of present developments, the last drop of revenue.

They cannot realize the wonderful opportunities still available for expansion in the Mississippi Valley. They do not realize the important fact that thorough drainage of lands adjacent to the railroads makes lower maintenance costs of road bed, and that the increasing value of adjacent lands reduces their percentage of taxation.

Railroads have long had among their officials men entitled Traveling Freight Agent, Traveling Passenger Agent, Industrial Agent, Land Agent, Immigration Agent, etc., but if they would employ a competent drainage agent, whose task it was to encourage tile drainage, the company could afford to pay him more money than the president of the road receives.

It would seem that a body such as our National Drainage Congress, whose membership includes men who believe in the future of our country, and who have gained high places in learning and accomplishment, and who are unselfishly doing constructive work, could reach out above the heads of ordinary traffic officials and by proper resolutions obtain the ear of railroad and government officials and point the way to the greater development made possible through the drainage and to the advantage to the carriers of establishing low freight rates on drain tile.

The facts must reach some "higher up" who has the capacity for analysis and the courage and ability to defend his action on his own authority. JAMES A REEVES.

#### RESOLUTION ADOPTED BY NORTH CAROLINA DRAINAGE ASSOCIATION.

The North Carolina Drainage Association, organized in 1907, has a constructive record of benefits to the state creditable to the men and women who have been active in its maintenance. Since its organization a modern drainage law has been enacted by the legislature at the session of 1909, and this law, with the several amendments thereto, were initiated by this association. Under this law it is estimated that 600,000 acres of virgin land from which the merchantable timber had been removed has been reclaimed by drainage and subjected to cultivation. Prior to drainage these cut-over swamp lands produced no income and had only a speculative value and could probably be purchased at a sum not exceeding \$5 per acre. Since being drained, these lands are producing abundantly corn and other staple crops, have a large net earning capacity and will sell in the market, prices ranging about \$40 an acre. A momentary calculation will show the large accretion to the wealth of the state arising out of the increased market value of these lands and the value of the products produced therefrom.

The drainage movement, however, only covers partially the field for development. There are still many thousands of acres of cut-over wet and swampy lands awaiting reclamation. The fertility of these lands has been demonstrated not only by the opinion of experts, but by an actual test of their productivity. But the swamp lands of the coastal plain section and in the mountains there are fertile valleys subject to overflow and uncertain in production which require scientific drainage which will enlarge their productive capacity and enhance their value and release them from the contingency of overflow and crop destruction.

We would not only emphasize the value of draining for increasing crop production and enhancing the value of our lands. Drainage is essential to permanent road construction. Good health and sanitation also wait upon drainage. Drainage and good roads make more accessible the school and the church. These incidental benefits should all be associated with the drainage of our wet lands.



## STUDIES IN SALES SERVICE.

What Is Being Accomplished in Another Field and How It Can Be Applied to the Clay Industry.

WE RECOGNIZE that there are two divisions in the clayworking industry. One is that of production, and the other is that of marketing. Moreover we know that progress in one must go hand in hand with the progress of the other. It will not avail much to improve or enlarge our producing methods unless we at the same time improve and enlarge our salesmanship and service to the public. On the other hand, salesmanship and service will be in vain unless it can be backed up by production and quality in the product. In the main, however, the clayworking industry has centered more thought and energy in the past on production and producing methods than on salesmanship, and today it is plainly evident that we should give more thought and study to selling and to what is meant by the modern term of sales service.

It would probably be not only interesting but very startling for the average brick manufacturer to get over in some other line and see just what form the idea of salesmanship takes. This thought was brought to mind recently in talking with a sales manager of a paint house about how they pushed paint business. The sales manager called one of his best salesmen to tell the story of paint salesmanship as they carry it on.

This salesman developed the peculiar fact that while their paint is sold and distributed by thousands of retailers scattered all over the country, much of the actual sales work is originated in the home office and is followed up until sales are made at points sometimes a thousand miles away. This is what he terms co-operative work on the part of the producing or jobbing houses. It consists, first, in preparing a great lot of technical information about paint and its uses, suggestive color schemes and combinations, kinds of paint to use for a given purpose and instructions as to how it should be used.

Then they develop a hook-up with the local retailer and actually help him go out and make sales to his individual customers. They not only do this by supplying him with an abundance of literature, and with sign boards, posters and things of that kind, but they have actually found that often they must send a man down to each community and go out and nail up the signs themselves to get them put into service.

Finally, the salesman said, that when they stock a man with paint they ask him to make a list of property holders in his community and send in the names of those who look like prospects for paint sales. They circularize these prospects direct, and when they awaken enough interest that local retail dealers that he will go out with them and spend time helping to sell prospects. When asked as to how much someone inquires for certain literature about paint they then send the name to the local dealer and put a follow-up system at work in the main office. And in the rounds the salesman covering the territory makes a proposition to each of his time, he says they will put no limit on the time at all, but match the salesman's time against the local retailer. Whatever amount of time the local retailer feels justified in spending out visiting the paint prospects the salesman spends with him and helps develop trade.

Now, you may ask, what has all this to do with selling brick or hollow tile? The answer is, this furnishes an illustrative example of studies in sales service, and that is one of the things that the clayworking industry must take up if it would make progress in keeping with competitive materials. Paint goes with lumber, and is handled in many instances by retail lumber dealers because lumber furnishes the surface upon which it is spread. If you will study lumber dealers, or study the activities of the cement association, in pushing its product through the hands of the retail lumber

dealers, you will get some idea of what is doing by other materials in the name of sales service. The cement people furnish a graphic illustration. When the call was going forth to put building operations on an all-the-year basis and especially to stir up more building this winter to furnish work for the unemployed, the cement people were on the job early. They got out a great mass of literature carrying instructions about how to use cement and do concreting in cold weather. This is sales service, the kind of sales service that means something because it is helpful, it helps the other fellow as well as helps make sales of cement.

The lumber people have long been aggressive in sales service and that is one reason why the percentage of homes built of lumber has run high during the past year. Go into any progressive lumber yards and you will find they are equipped with plan books, with a drafting room and are prepared to not only furnish complete plans for the man who wants to build a home, either from stock patterns or from special drawings, but they are ready and prepared to furnish him an estimate on all the detail costs of building that home. They will not merely stop at telling him how much lumber he needs and how much it will cost, but they will go so far as to get completed figures on the job and even on the various sub-contract features, including plumbing, plastering, electric wiring and so on. Here again we have an example of sales service that helps land business because it furnishes information to the other fellow that is useful to him in developing his ideas and in carrying out his plans.

That is the situation the clayworking industry is facing now, a situation in which the producers of rival materials are not only carrying on aggressive campaigns of advertising, but have been pushing many ideas of effective sales service. Therefore, it is up to the clayworking industry to see what it can offer and do in the way of effective sales service.

The situation is one that suggests among other things plan books and printed literature and a hook-up with some local agency of distribution. This agency in many instances had better be the local retail lumber dealer. In the larger cities there are brick dealers specializing in the handling of brick who from this specializing can render better sales service, but there are thousands of smaller cities and towns where the best agency for local distribution is plainly the retail dealer in lumber and building material. And we are recognizing and developing this now which shows that we are making some progress along the line of sales service studies.

Producers of brick and hollow tile who figure on shipping over wide distributing territory are developing connections with local retail dealers and thus laying the ground work for more aggressive salesmanship. Here they can now take a page from the paint salesman mentioned above and profit from it. Can learn from what they are doing how to lay out an aggressive campaign and a follow up.

It is not enough, for example, to designate the retail dealer in a given community as your agent to whom inquiries for brick and hollow tile are to be referred. You should put some sales service to work. In a word, there should be a salesman covering the territory, and not merely covering it to visit those dealers and talk with them but the talk should be of some definite purpose. Taking a page from the paint salesman, there should be efforts made to have the local dealer make up a list of prospects, send them into the home office, have them circularized from there and have the salesmen work with the local dealer in following up prospects and landing business.

This means, of course, that a salesman to be qualified for rendering effective sales service must know brick, must know how to figure not only the quantities required for a given kind of building, but he must know something of the probable cost of putting it into a building, and be in position to render some of the same sort of expert service that is rendered by the paint men, and lumber men, and the cement men in connection with their sales campaign.

It is through the making a study and developing sales service of this kind that the clayworking industry may keep the sales end of it moving in step with the progress being made in manufacturing. And to do this as it should be done calls for dividing our study and effort, for giving a fair share of it to a study and development of sales service.



# AN UP-TO-DATE BRICK PLANT

Some Notes on the Superior Press Brick Plant, Located Within the City Limits of St. Louis, Mo., Which Boasts the Production of 175,000,000 Brick Annually.

THE STATE OF MISSOURI is the fourth largest clay producing state in the United States, and perhaps contains as great a variety of clays as any state in the union. St. Louis being the metropolis of the state with about one million inhabitants can also boast of being one of the largest clay manufacturing centers in the world, as well as being the home of the largest clay products manufacturing companies in the world, all of which the "Show Me" state can "Show You." St. Louis can also show you some of the most modern and up-to-date brick plants in this country, among them being that of the Superior Press Brick Company, located within the city limits.

The Superior Press Brick Company was incorporated in 1891 and has had a most successful career during these thirty

Indies. There are perhaps few men of his age in the United States who have had greater or more variegated experience in the designing, erecting and operating of clay plants. Mr. Mitchell is forty-eight years of age and has been engaged continuously in the manufacture of clay products since he was eighteen years old, and in practically every department from the clay bank to the finished product laid in the building.

We have been fortunate in securing some fine illustrations of the Superior Press Brick Company's plant. No. 1 shows the company's office, which is faced with press brick, lined with white and blue enamel brick, floored with clay mosaic tile and roofed with clay roofing tile, which is certainly a good advertisement for clay products. The gentlemen shown on the left of the picture is Mr. Fuerhead, with Mr.



Bird's Eye View of the Plant of the Superior Press Brick Company, St. Louis, Mo.

years' operation. They have never failed, with the exception of about three years during the war, of showing their stockholders a good dividend, a record which is not excelled by very many clay industrial concerns.

The officers and executives of the Superior Press Brick Company are John J. Osborne, president; Frank Frommeyer, vice-president, and J. H. August Meyer, secretary and treasurer. The active executives are Carl Fuerhead, assistant secretary, and W. C. Mitchell, plant manager. Mr. Fuerhead is well known among the local brick manufacturers of St. Louis, and has been chief auditor and assistant secretary for the past eighteen years. Mr. Mitchell is well known as a practical clayworking engineer from the Atlantic to the Pacific, and from Montreal, Canada, to Southern Mexico and the West

Mitchell on the right, the two men "behind the gun."

No. 2 is a bird's eye view of the plant which is equipped with six large up draft kilns with a total capacity of one million brick; six rectangular down draft kilns, with a capacity of one million brick; one twelve track waste heat dryer; face brick stock shed, which holds over one million brick. The company has two five-mold Lion presses, one Fernholtz two-mold press; one No. 445 International auger machine; one International No. 510 automatic cutter; one International 12-foot pug mill; one International 9-foot dry pan; one Eagle 9-foot pan; one International piano wire screen; one Sturtevant, "Bucking Broncho"; No. 2 B. B. separator; one International automatic disc feeder; one set 36 inch Farrel triple rolls; one 75 ton Marion steam shovel; one Goodman electrical



dryer car puller; one 100 h. p. St. Louis slide valve engine; also one 200 h. p. Corliss engine.

Photo No. 3 shows the clay field and method of harvesting the dry clay during the summer months. The clay is stored for winter use in clay storage shed which has a capacity of clay for seven million brick; there are from twelve to fifteen feet of yellow surface clay to manufacture, which is underlaid with a deposit of excellent variegated shales and plastic fire clay. The surface clay is manufactured into dry press brick and the shale into rough texture matt brick, which burns a most beautiful variegated shade. One commendable feature of the brick made from this shale is there is very little shrinkage in burning, the top and bottom brick in the kilns being practically the same size regardless of the variation in the temperature in burning. The company owns forty acres of these clay deposits adjacent to the plant.

Photo No. 4 shows a kiln of the rough texture brick just being opened.

Photo No. 5 shows an up draft kiln of dry pressed brick,



W. C. Mitchell, St. Louis.

which is being hauled to the various jobs. Note the uniformity of the settle and the burn. This kiln set forty high had a ten-inch settle. Charles Waumhoff, the head burner, has the reputation of not only being the oldest active brick burner in St. Louis, but is also considered one of the best. Mr. Waumhoff has been burning for the Superior Press Brick Company for the past thirty years, is one of the stockholders of the company, and is also a director.

Photo No. 6 illustrates the method used in storing the various shades of face brick in stock sheds. Note how neat and uniform the brick are piled, with straw between each layer of brick. The face of the brick is turned down.

This plant represents an investment of about \$300,000 and has a total capacity of 90,000 brick per day. The company is now making additional improvements which will enable them to turn out about seventy-five tons of hollow ware per day also.

The combined capacity of the St. Louis brick plants is about 175,000,000 brick per annum, and the Superior Press Brick Company usually secures their pro rata of business.

Written for THE CLAY-WORKER.

MILWAUKEE AND WISCONSIN BRICK AND CLAY NEWS.



WISCONSIN MANUFACTURERS of clay plans for formulating and recommending building products have been interested in standardization by manufacturers and the protest against high freight rates on building materials in an effort to reduce the cost of building, which were among the principal subjects considered at the meeting of the board of control of the National Association of Builders' Exchanges, at Milwaukee recently.

"The key to the restoration of building operations to



No. 1. Factory Office Superior Press Brick Co., St. Louis.



No. 3. The Superior Press Brick Company's Clay Field.

normal is in the hands of the bankers and heads of other financial institutions of the country," said Charles W. Bernhardt, Atlanta, president of the National Association of Builders' Exchanges, who attended the meeting.

"Action has been taken by the board for the development of a program for financing building. Banks and other financial institutions will be asked to encourage building by eliminating bonus charges for loans, which, in some cases, have run as high as 20 per cent.

"Railroads will be urged to do their part by reducing freight rates, thus lowering the cost of building materials. Organized labor must take its loss, too. Wages can not be maintained on a war basis. Building labor has accepted a reduction all along the line and other lines must do the same.

"Work will be continued for the standardization of building codes and of building material. These subjects will be



the most important considered at the annual convention in Atlanta February 20-23, for which a program has been outlined by the board."

"Construction work in Wisconsin will undoubtedly be affected by investigation of freight costs on brick hauled within the state, which has been set to open December 22 at Madison. This action affects eleven railroads. The complaint that freight rates on bricks in this state are excessive and unreasonable was filed by A. O. Soule, Wausau, traffic manager of the Central Wisconsin Traffic Association, on behalf of the Wisconsin Clay Manufacturers' Association.

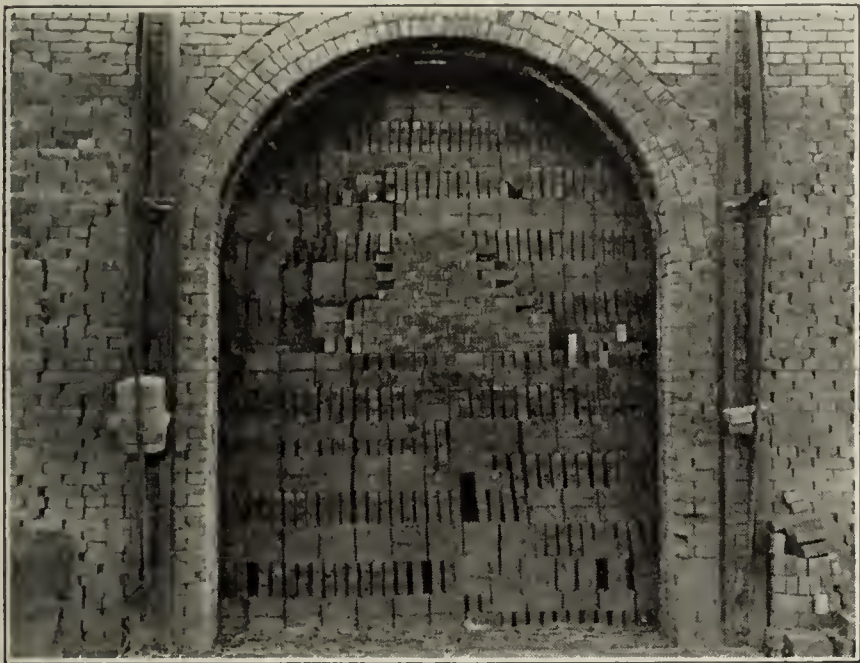
A noticeable and sturdy increase is noted in the building

dation contract for a \$100,000 residence to be erected on Lake drive for Fred Vogel, Jr. The same architects have also made preliminary sketches for a proposed play house for the Wisconsin Players, Milwaukee, the cost of which is approximated at \$80,000.

At the close of November, William D. Harper, building inspector, Milwaukee, announced that the permits issued for the year had reached \$23,403,205, surpassing the previous record of the department, \$23,366,077 in 1919, by approximately \$40,000. The number of permits issued was 30,025, compared with the record of 23,600 made in 1920.

"We are going well over the \$24,000,000 mark, and the only question is how near we will come to \$25,000,000," said the building inspector. "Personally, I believe we will exceed the \$25,000,000 mark. We have in the office at present plans for the new Ebenezer Evangelical church at Fortieth and Center streets, \$75,000, and for a fireproof public garage, to be erected by the Blatz Brewing Company on Broadway between Johnson and Martin streets, \$30,000. In addition, there are the plans for the new tannery of the American Hide and Leather Company, to replace the plant destroyed by fire. This will call for \$500,000, while the Children's Free Hospital at Grand avenue and Seventeenth street, for which a permit is soon to be issued, will add \$400,000, so there is another million right there."

Building activities in nearby cities include the following:



No. 4. A Fine Kiln of Rough Texture Brick.



No. 5. Taking Brick from a Square Up-Draft Kiln.

situation. This does not apply to Milwaukee alone, but extends throughout this section of the state. The ability to obtain speedy delivery of materials at more reasonable prices and the desire to relieve the unemployment situation are said to have had much to do with the boom.

Van Ryn & DeGelleke, architects, have submitted preliminary plans for the new \$1,000,000 county hospital to be erected on the Schandein site. The plans call for an eight-story building, with a frontage on Grand avenue of 276 feet and an extreme depth of 277 feet.

Judell & Bogner, architects, Milwaukee, have let the foun-



No. 6. Stock Shed Where Brick are Stored in Orderly Fashion.

Sheboygan Security Bank, Brust & Phillip, architects, Milwaukee; total cost of the structure to be approximately \$600,000. West Allis—City hall, R. A. Messmer & Bro., Milwaukee, architects; face brick, let to Ricketson & Schwarz, Milwaukee. Stevens Point—The general contract for the new \$300,000 fireproof hotel to be erected in this city was awarded to the Immel Construction Co., Fond du Lac. Clas, Shepard & Clas, Milwaukee, are the architects. Appleton—A memorial building, the cost of which is estimated at \$200,000, is contemplated by the Association of Commerce, Sherman Hotel building, Hugh S. Corbett, secretary. The building will be three stories in height, and basement, and will be fireproof of brick and stone. The architects have not been selected. Neenah—The Wisconsin Cheese Federation, a new company, intends to erect a brick warehouse, cost \$75,000, three stories and basement. The present address is care of the secretary of the Neenah Civic Association. Madison—A \$750,000 six-story fireproof hotel, of brick, stone and reinforced concrete, is being planned by the Capital Hotel Company. It will have 200 rooms. The architect is W. W. Alschlager, Chicago.

A. BADGER.



THE UNITED STATES POTTERS' ASSOCIATION FORTY-  
THIRD ANNUAL CONVENTION AT THE NEW  
WILLARD HOTEL, WASHINGTON, D. C.,  
DECEMBER 6, 7 and 8, 1921.

IT WAS NOT the spoken word that made the forty-third annual meeting of the United States Potters' Association, held at Washington, D. C., December 6 to 8, the signal success it was, but the unspoken word. The marked harmony of spirit, the thought of construction and progress will cause the gathering to go down in history as the most wonderful, the most successful the Association ever fostered.

There were a lot of things done at the Washington meeting of the American pottery manufacturers that will continue to live, even unto the memory of the years that are to come. Therefore the structure today is bigger, stronger, more progressive and more united than at any time since its creation.

Those who have been guiding the ship in years gone by are slowly but gradually giving their place in the official work of the Association to the younger generation, and youth today can only follow the precedent established at the recent Washington gathering to cause the seed already sown to grow into a mighty plant that even time cannot wreck.

In former years meetings of the United States Potters' Association have been rather routine in character and lasting but two days. At times this routine has become rather irksome. But 1921 witnessed a change in the set rules and routine of the past, in fact the rules of years were discarded and that precedent of years was forgotten.

It must be said in all frankness and candor, and to his credit, that B. E. Salisbury, of the Onondaga Pottery Co., of Syracuse, N. Y., who served the United States Potters' Association as its president during the fiscal term of 1920-1921, blazed the trail of reconstruction and betterments within the ranks of American pottery manufacturers as it was never blazed before. And now comes to the front Frank P. Judge, Jr., of the National China Co., of Salineville, O., who, by the way, is the youngest within the trade who ever occupied the presidency of the Potters' Association, and is being looked upon as one who will continue to lead the manufacturers, old and young, to higher and loftier ideals in this industry. The success of his own business shows his progressive spirit, and this progressiveness will continue to be injected into the life of the Association.

When the Association met in the Fairfax Room at the New Willard at Washington, the afternoon of December 6 for the first session, and the program was scanned, the skeptic wondered and was concerned about the success of the meeting. An entirely new order of things was presented.

For an hour the routine of years was followed, and then, suddenly ears were pricked, when Dr. W. S. Stratton, Director of the Bureau of Standards, was introduced. Through Dr. Stratton the pottery manufacturers had been given something new to think about. They began to wonder about the future. What had the manufacturers lost in not taking advantage of the one big thing that was theirs merely for the asking—the service of the Bureau of Standards. True, some manufacturers knew of the value of the Bureau and from time to time have accepted its services, but not in the volume they should have done.

"Come out and just see what we're doing for you," was the message Dr. Stratton left with the Potters' Association. They went to the Bureau the second day of the meeting, they saw, and they were conquered as no army ever was. There was no battle, to be sure, but the spirit of the manufacturers was completely won over to the idea of constructiveness and progressiveness.

Hon. W. P. G. Harding, Chairman of the Federal Reserve Board, was another who addressed the Potters on "The Business Situation."

Then the time to give some thought to the "Possibilities of Co-Operative Advertising." This was the theme of a chart-illustrated address by C. C. Parlin, of the Curtis Publishing Co., of Philadelphia, Pa. Mr. Parlin gave the manufacturers something new to think about, and when he ended his talk and retired from the Fairfax Room he was surrounded by a group who left the room and sought those "inner details" that were not divulged in the open session. This incident is related solely for the purpose of showing how quickly the seed of construction and progressiveness, so soon after sown, was taking root.

But, it remained for Hon. Marion DeVries, Presiding Judge, United States Court of Customs Appeals to light the fuse which caused an explosion of interest never before heard in the history of the Potters' Association. Judge DeVries addressed the convention on "American Valuation," and when he related that his information was that importers had garnered a slush fund of \$1,500,000 to be spent wrecking American industries through the entrance of foreign merchandise into American markets on a low tariff basis, the climax was reached. But so far as the American pottery industry is concerned, perhaps the industry has "that ace in the hole" which will cause the opposing player grave concern.

It was soon after Judge DeVries had finished, that the new executive committee announced that it would meet in Pittsburgh, Pa., December 15, for the purpose of arranging for a wide distribution of the address of the speaker on "American Valuation." But, other than this, big cards remained to be played on the American side of the table, about which more will be learned a little later.

Hon. Herbert Hoover, Secretary of Commerce, sowed more seed about the field of the American pottery industry when he addressed the Association in the auditorium of the Commerce Building.

When at the Bureau of Standards the suggestion was made that the pottery manufacturers appoint a committee to act in an advisory capacity with the Bureau to create and design a standardization in America. The thought of the Bureau had previously been discounted by the manufacturers, so far as it related to the manufacture of vitreous semi-porcelain ware.

Heretofore the United States Potters' Association has always had within its official organization a committee on materials. This particular committee has been "wiped off the map," so to speak, and to take its place there has been created a Research Committee. A V. Bleininger, formerly with the Bureau of Standards and in charge of its Ceramic Department, and now in charge of the Research Department of the Homer Laughlin China Co., of East Liverpool, O., and Newell, W. Va., has been named chairman of this committee of nine, every one a technical man. Now the interesting thing about this committee is, it will be the one that will co-operate with the United States Bureau of Standards in an advisory way, with reference to the standardizing of shapes, bodies, glazes and in any other subject that might be brought to the attention of, or thought out by either side.

If, the forty-third annual meeting of the Potters' Association accomplished no more than this one thing, it was a worth-while gathering.

But all in all, the Washington meeting was one of inspiration, uplift; one where unity of spirit was a guiding star and in the final analysis, it was a meeting in which work was done and ideas conceived that will live on down through the ages.



LIST OF THOSE PRESENT.

H. H. Wyllie, H. R. Wyllie China Co., Huntington, W. Va.  
H. L. Harris, Pacific Coast Borax Co., New York, N. Y.  
J. G. Kauffman, China, Glass and Lamps, Pittsburgh, Pa.  
R. H. Pass, Onondaga Pottery Co., Syracuse, N. Y.  
B. F. Salisbury, Onondaga Pottery Co., Syracuse, N. Y.  
S. H. Sloboskin, Boston Pottery Co., Boston, Mass.  
F. P. Judge, Jr., National China Co., Salineville, O.  
Samuel B. Larkin, National China Co., Salineville, O.  
W. Riehl, Hanovia Chemical Co., Newark, N. J.  
George J. Neibuhr, Hanovia Chemical Co., Newark, N. J.  
W. E. Brown, East Liverpool Potteries Co., East Liverpool, O.  
Albert W. Corns, McNicol-Corns Pottery Co., Wellsville, O.  
B. S. Purinton, East Liverpool Potteries Co., East Liverpool, O.  
V. B. Case, Papermakers Chemical Co., Easton, Pa.  
W. H. Robinson, Colonial Pottery Co., East Liverpool, O.  
A. G. Dale, International Pottery Co., Trenton, N. J.  
Mare Solon, Mercer Pottery Co., Trenton, N. J.  
W. E. Wells, Homer Laughlin China Co., East Liverpool, O.  
Charles I. Aaron, Homer Laughlin China Co., East Liverpool, O.  
W. Campbell George, W. S. George Pottery Co., East Palestine, O.  
J. S. George, W. S. George Pottery Co., East Palestine, O.  
C. W. Foreman, Owen China Co., Minerva, O.  
W. A. Shaw, Cannonsburg Pottery Co., Cannonsburg, Pa.  
Will A. Rhodes, Chelsea China Co., New Cumberland, W. Va.  
Harry W. Smith, R. & H. Chemical Co., New York, N. Y.  
C. D. Fraunfelter, Ohio Pottery Co., Zanesville, O.  
C. E. Jackson, Warwick China Co., Wheeling, W. Va.  
G. W. Mitchell and T. A. Anderson, P. G. China Co., Coshocton, O.  
W. H. Phillips and H. D. Smith, S.-P. China Co., East Liverpool, O.  
M. W. Thompson, Hall China Co., East Liverpool, O.  
Earl R. Crooks, Crooksville China Co., Crooksville, O.  
C. H. Walker, Homer Laughlin China Co., East Liverpool, O.  
A. V. Bleininger, Homer Laughlin China Co., East Liverpool, O.  
Homer J. Taylor, Knowles, Taylor & Knowles, East Liverpool, O.  
George C. Thompson, Thompson Pottery Co., East Liverpool, O.  
Charles Ingram, Clinefield Products Co., New York, N. Y.  
George A. Bauer, Edwin Bennett Pottery Co., Baltimore, Md.  
Albert Pickin, Palm Fletcher Co., East Liverpool, O.  
A. J. Strikow, Hopwell China Co., Hopwell, Va.  
W. F. Harris, Eastern China Clay Sales Co., New York, N. Y.  
Joshua Poole, East Liverpool, O.  
C. W. Capes, J. E. King Co., Buffalo, N. Y.  
Charles L. Sebring, Sebring Pottery Co., Sebring, O.  
E. L. Torbet, Onondaga Pottery Co., Syracuse, N. Y.  
C. Mertz Frensheim, Wheeling, W. Va.  
Norman T. Smith and Stanton Y. Smith, Brunswick, Me.  
Charles M. Smith, Shenango China Co., New Castle, Pa.  
Arthur E. Mayer, Mayer China Co., Beaver Falls, Pa.  
J. Wm. Seammell, Lamberton China Works, Trenton, N. J.  
R. Gaertner, R. Gaserner Co., New York, N. Y.  
Richard L. E. Chambers, East Liverpool, O.  
William H. Griggs, Anchor Pottery Co., Trenton, N. J.  
Arthur Lazarus, U. S. Chamber of Commerce, Washington, D. C.  
H. H. Sortwell and A. E. Williams, U. S. B. of S., Washington, D. C.  
J. H. Simms, East Liverpool, O.  
Samuel R. Firth, Steubenville Pottery Co., Steubenville, O.  
William Burgess, U. S. Tariff Commission, Washington, D. C.  
J. W. Irwin, Edwin M. Knowles China Co., East Liverpool, O.  
DeWitt D. Irwin, Potters Supply Co., East Liverpool, O.  
John W. Vodrey, Vodrey Pottery Co., East Liverpool, O.  
E. K. Moore, Philadelphia Drying Machinery Co., Philadelphia, Pa.

NEW JERSEY POTTERS WORKING FOR REDUCTION IN FREIGHT RATES.

The pottery owners in New Jersey are beginning a campaign to have freight rates reduced for clay, flint, feldspar and all material entering into the manufacture of ceramic wares. They believe this is one way to cut production costs and the matter has been taken up by a committee appointed consisting of M. D. Warren, traffic manager of the C. of C., A. C. Hoffman, Trenton Potteries, L. L. Lee, Star Porcelain Co., of Trenton; Charles Brian, Paper Makers' Chemical Co., Easton, Pa.; John Manor, Golding Sons & Co., East Liverpool, Ohio; F. W. Walker, Beaver Falls, Art Tile Co., Beaver Falls, Pa., and others.

According to the opinion expressed by a Trenton pottery production of dinnerware and some porcelain specialties is

now on a good firm basis. A number of sanitary pottery orders have been received and most plants are operating to a normal capacity. Buyers, they claim, are anticipating their wants for 1922. There will be no reduction in price and some buyers realizing this are taking "the bull by the horns" and placing orders.

Spring samples, and lines are out and prices have not been changed since they were announced in September. Foreign competition is not very keen at the present time, and as their prices are tending upward domestic manufacturers are receiving the demand for their ware.

NOTES OF CERAMIC INVESTIGATIONS BY UNITED STATES BUREAU OF MINES.

AT THE Ceramic Experiment Station of the Bureau of Mines at Columbus, Ohio, a study has been made of the capillary movement and the permeability of water through white clays. The rate of movement was comparatively rapid in North Carolina kaolins, but much slower in Georgia and South Carolina kaolins. Microscopic examinations have been made of 12 bauxitic clays from Georgia to determine their mineralogical constitutions.

Physical and chemical studies in co-operation with the Heavy Clay Products Associations are progressing at the Columbus Station. The oxidation of the accidental minerals found in clays is being carried out separately, and the catalytic effect of clay upon these reactions is being studied together with the influence of time and temperature. Apparatus and material for experiments on the chemical heat developed during firing is being assembled and set up. All this work is in the development stage, and new methods and apparatus will have to be developed as the work progresses. The safe rate of firing the products burned in the industrial kilns now being tested was carried out in the laboratory and the results applied to the commercial burn.

At this station, the investigation of the permeability of refractories is being continued. Samples of fire brick, developed for low spalling, will be incorporated in the investigation.

Deflocculation tests of clays, examined in the course of the co-operative work with the Central of Georgia Railway, conducted at the Columbus Station, are practically completed. A cone 1 burn (1150°C. or 2102°F.) on the color pats and shrinkage bars has been made and the burning properties may now be determined. Water of plasticity and drying shrinkages were determined. Fusion tests made in a Hoskins carbon resistance furnace indicated that all clays fuse above cone 30 (1730°C., or 3140°F.).

At the Northwest Experiment Station of the Bureau of Mines at Seattle, Wash., an examination has been made of the fused English china clay. During the fusion of this clay considerable material, containing 20 per cent alumina and 80 per cent silica, was volatilized, thus pointing to the possibility of reducing the silicon content of the clay by electrical fusion. The fused clay was crushed and briquets were made for load testing at high temperatures. The study of whiteware clays is being continued.

The Elks in Chicago plan to contribute substantially to the local building activity of the next twelve months. They feel that they have outgrown their comparatively new twelve-story clubhouse and are about to place it upon the market and erect a new \$2,500,000 edifice elsewhere in the loop. The plan to meet their growth by erecting an annex to the present Washington street clubhouse has been abandoned. The Elks also are seeking a site outside of the loop territory upon which to erect their Grand Lodge Memorial building.





### TUNNEL KILN TRUTHS.

IT APPEARS that the discussions in *The Clay-Worker* regarding Tunnel Kilns of the railroad type are deviating from the main purpose of giving to the trade real information, and thereby benefiting the manufacturer so that he may know just how far the Tunnel Kiln has advanced and how it stands today in the extensive field of burning clay wares. Exchanging of personal views and opinions, while very interesting and at times amusing, in the final analysis of the question, means but little to the man who pays for the burning. He wants either facts or ideas which seem to him very practical and usable. He craves to know just what really is going on and being accomplished and not what seems on the face of things to have been accomplished. The general lack of correct Tunnel Kiln information, as well as general ceramic information in regard to developments, seems at times appalling. Let us, therefore, try to look at this question from a vantage point of facts as far as possible and give the manufacturers some real bona fide information.

The old argument of Muffle versus Direct Fired Tunnel Kilns furnishes us with a good enough medium for distributing present information and information on expected developments. There is only one outstanding muffle kiln on the market, while there are at least three prominent direct fired kilns of the railroad type. The designers of each kiln are competing with the designers of the other kilns to the end that they may offer to the trade a really good kiln. Surely out of this competition must come a splendid machine for burning. Let us then see how far they have progressed.

It is very difficult to secure accurate information from the clay people. Very little is known by the crude clay manufacturers about tunnel kilns of the muffle type and even less about tunnel kilns of the direct fired type. Even the managers of the plants are given to telling to themselves various untruths and the strange part of it is these managers believe their own stories. They ease themselves along into the way they want to think, not into the way they should think logically. Then they wake up some day to the truth, but with much less money than before.

Now certain wares should be fired in a muffle kiln and not in a direct fired kiln. This fact has been recognized by periodic kiln builders for generations. However, the wares which must necessarily be fired in a muffle kiln are few. The rest of the long line of clay products can be fired successfully in direct fired kilns. This applies to tunnel kilns as well as to periodic kilns. I believe, however, that although crude wares have been fired in both the muffle and the direct fired tunnel kilns with certain degrees of success, that in no installation has there been the enthusiastic and overwhelming success expected by the designers. Do not misunderstand this statement. The tunnel kiln has reached such a point in its development that it is far ahead of the old periodic

kilns. The designers, happily, have hitched their wagon to a star. They can not be satisfied with merely beating the old periodic method of firing. They want to tie it hand and foot by excelling the old methods so far that the layman can easily see the advantages and so that a plant operating without tunnel kilns can not hope to compete with a plant equipped with the modern railroad kiln.

To me it seems that a kiln in which the gases are dragged through the setting by means of the stack or mechanically produced draft, would register a much higher degree of efficiency than a kiln which depends for the most part on convection currents—convection currents at the best being very weak. To experienced tunnel kiln men, it is a very well-known fact that one of the big problems to be overcome has been the "drift" of heat lengthwise of the kiln through the top of the setting immediately under the crown of the kiln. This drift is much more powerful than the transverse convection currents and probably renders them very inefficient and almost useless. The designers of each type of kilns have taken steps to handle this "crown drift" and judging from recently examined temperature charts, are succeeding. The charts of the direct fired kilns show decidedly a better heat gradient from end to end than the charts of the muffle kilns.

By the middle of next summer there should be several installations of each type of kiln in operation on crude wares in this country. By that time the advocates of the muffle type should know just how much of a real success the muffle kiln is in handling crude wares. The muffle kiln installation referred to by Mr. Williams in the October issue of this magazine as being successful is at present shut down for repairs and contemplated changes and when the kiln is again lighted, which will be about the first of next year when business improves, the management sincerely hopes that they will be able to burn drain tile successfully and without the high loss in broken tile which they have been enduring since starting the kiln last February. This company deserves great credit, due to the fact that they were not afraid to take a step forward to secure better means of manufacturing their product and to thoroughly modernize their plant. They may be able to make the kiln work successfully after the contemplated changes are made. I do not say that they can not; rather would I choose to hope, that for the advancement of the industry and the good of the trade, that the company that built the kiln will be able to fulfill their guarantee and put the kiln into shape to some day do what they already have claimed it will do. It is regretted that Mr. Williams did not tell us more in detail about the outfit, as there seems to be several points unobserved by him, but which appear as very interesting to a man with money to spend for a tunnel kiln.

The tunnel kiln must not only burn the crude ware satisfactorily, but must also have sufficient capacity to render the installation justifiable. It is not such a great problem to



burn the crude clay wares successfully in a tunnel kiln, but to secure a large capacity is another story. However, it can be done and done well, but the kiln must be carefully figured and designed for this particular purpose. Good engineering coupled with experience is as essential in the designing and building of a tunnel kiln, as in the designing and building of a good motor car. We must get out of the rut and step along with the other industries. There are just as good men studying the problems of the clay industry as there are in any of the modern industries. Instead of hindering their advances and efforts by non-constructive criticism, they should be consulted and encouraged by co-operation.

May I take the room to say to you, Fellow Clayworkers, don't just go slow on this matter and sit back and wait on the other fellow. Get in the swim. Investigate. And when you investigate, investigate clear down through to the bottom. Don't be satisfied with partial truths. Get whole truths. Then take your step ahead and know what you are about. If we are going to wait on the other fellow, we are going to advance just as far in the twentieth century as we did during the nineteenth, and all the progress of the clay industry in the nineteenth century can be told in one breath without straining one's self in doing so. It is small wonder that a stone thrown from well nigh any church spire in the country will fall upon an abandoned clay plant. But why? Because the operators of the clay plant tried to produce their ware for twentieth century consumption by methods differing but little from those of ancient Assyria, Babylon and the Greeks. What was good enough for father isn't good enough for son. Why does a man persist in putting out a goodly sum for his burning when it can be done for one-fourth of the amount he now spends?

Mr. Williams in the last issue of *The Clay-Worker* stated that a muffle kiln would cost from \$75,000 to \$100,000. He certainly has been misinformed about this. A muffle kiln for crude wares with gas producers and all the necessary cars and equipment, and with everything ready to operate will undoubtedly cost the company in whose plant the installation has been made a price very much in excess of his highest figure. Mr. Williams referred to the muffle kiln installation near Columbus, O., which was constructed for firing crude wares. A similar muffle kiln installation was also completed this year at Columbus, Ga. If Mr. Williams can do so, we would suggest that he produce conclusive evidence that either one of these kilns, exclusive of building, cost less than \$120,000. A number of kilns of a successful direct fired type have been built for sums ranging from \$50,000 to \$60,000. It is a proven statement that a direct fired kiln can be built complete for a lower sum than a battery of periodics of equal capacity can be constructed.

A gas producer is necessary with a muffle kiln where coal is to be used as fuel, and any one who has had experience with producers operating in connection with tunnel kilns can fully realize the nuisance and the disagreeable bother that goes along with the producers. Furthermore, the periodic burning out of the gas flues is as mean a task as a man can have to do. Also, while burning out the gas flues and connections, the car movement schedule of the kiln must either be slowed down or temporarily abandoned until the flues are once more delivering gas to the kiln. No gas producer is necessary with a direct fired tunnel kiln as the fuel can be burned in furnaces directly attached to the kiln. The producer is eliminated altogether, thereby saving the initial cost of the producer and also the producer heat losses.

We can not know too much about kiln developments. One should form the habit of investigating and hunting for complete truths. Partial truths are very misleading. A few questions, placed in the order of their relative importance and

which might prove helpful to the plant manager who wants to learn all he can about tunnel kilns, are listed below.

1. What daily capacity has the kiln?
2. How much is the loss in broken and unevenly fired ware?
3. How much does the kiln cost?
4. What does it cost for maintenance?
5. How much fuel does the kiln consume?
6. How much power is required to operate the kiln?

One should be fair with oneself and with the kiln builders.

FRANK M. HARTFORD.

#### GOOD ROADS SHOW TO BE HELD IN CHICAGO.

ALL of the initial 40,000 square feet of space for the forthcoming Thirteenth National Good Roads Show to be held at the Coliseum, Chicago, Ill., January 16 to 20 next, under the auspices of the American Road Builders' Association, having been reserved by 86 exhibitors at the first drawing in October, the officials in charge arranged for about 20,000 square feet of additional space to care for a waiting list of about 50 firms not yet accommodated. Arrangements have been made by E. L. Powers, secretary for about 12,000 square feet of space in the balcony of the Coliseum and 8,000 to 10,000 more square feet in two buildings adjoining the Coliseum Annex on the south.

Diagrams showing the new space were sent to prospective exhibitors during the past few days. There were 144 exhibitors at the show last year and the indications are that the number this year will approach nearer the 200 mark. The show last year also broke all records for attendance. It is expected that the attendance this year will be even greater.

At a recent meeting of the directors of the American Road Builders' Association it was decided to open the show with a band concert on the night of January 16. The Twelfth American Good Roads Congress to be held in connection with the show will open on the following day. A meeting of exhibitors was held in Chicago, Saturday, Dec. 3, at which excellent entertainment and program features were planned. Efforts are being made to secure special reduced railroad rates, all points to and from Chicago, for the week of the show. The Central Passenger Association has already granted a rate of one and one-half fare for the round trip throughout its middle west territory, the reduction being made upon certification by passenger to the railroad agent at the show before the return trip. The indications are that all the other passenger associations will follow suit.

Many new features will be found in the show this year. The U. S. Bureau of Public Roads, will have a mammoth exhibit covering 2,000 square feet of space and will demonstrate, in addition to everything exhibited heretofore, the best methods of choosing sites for new roads, as well as tests of road materials, drainage and subgrades and the effect of impact on both pavements and subgrades.

The new directors of the A. R. B. A., elected November 15th, have chosen an executive committee composed of H. L. Bowiby, Washington, D. C., president; E. L. Powers, New York, secretary, and James H. MacDonald, New Haven, Conn., treasurer, of the association; H. E. Breed, New York, and R. A. Meeker, Trenton, N. J. This committee is assisting Secretary Powers in organizing the Congress and Show.

Committee C-1 of the American Society for Testing Materials and a government department and the American Engineering Standards Committee have all now agreed on uniform specifications for cement. Copies of these can be had from the American Engineering Standards Committee, 29 West 39th Street, New York, for twenty-five cents.



# AMERICAN FACE BRICK ASSOCIATION MEETING

Good Attendance, Splendid Addresses and Some Real Constructive Work Impressive Features of Tenth Annual Convention.

THE TENTH ANNUAL MEETING of the American Face Brick Association was held Wednesday, Thursday and Friday, November 30, December 1 and 2, at the Greenbrier Hotel, White Sulphur Springs, W. Va. Over two hundred men were in attendance and the convention was pronounced a success from every angle. The outstanding feature of the convention was an address by Herbert S. Houston, president of the Associated Advertising Clubs of the World. Of particular interest were the addresses of President Paul Belden, Dr. G. C. Mars, Mr. E. F. McCullough and the report of the Traffic Committee.

The first session was called to order at 2:30 p. m., November 30 with President Paul B. Belden in the chair. This session was devoted to the transaction of the usual routine business. President Belden's address was optimistic as to the future of the business and made an appeal for the necessity of high ideal in the brick trade. This was followed by a report by Secretary-Treasurer Hollowell which went into details as to the accomplishments of the Association and included a financial report.

The Traffic Committee report was quite comprehensive. This dealt with the work of this committee during the past year and cited the case that was to be heard before the Interstate Commerce Commission on the 10th and 11th of December wherein oral arguments were to be made and the facts of the case as it related to the face brick manufacturers, were to be emphasized. The report showed that an effort was being made to get an equalization of rates, an established commodity rate in which brick could be moved throughout the country particularly in the south (all sections of the country need equalized commodity rates) and expressed the hope for a revision generally in brick rates.

The report of the Research Committee outlined in a general way the organizations working with the A. F. B. A. and various agencies co-operating such as the Bureau of Mines and Bureau of Standards, but had nothing in particular to report as none of the research work had been completed. The first session ended with the appointment of committees and disposition of new business, together with announcements by the Secretary.

At 6:30 Wednesday evening an informal dinner to manufacturers, dealers and their ladies was served in the main dining room of the Greenbrier. Following an elegantly served meal, the feature of the evening was a community "sing" under the able supervision of Mr. Marshall Bartholomew of New York City who was in charge of community singing and welfare work in U. S. prison camps in Germany and Russia during the world war, later being at the head of all organized effort along this line by the army and navy of the United States. Mr. Bartholomew is at present in charge of all undergraduate musical activities at Yale University, in addition to conducting a normal school of music in New York City. Parodies, prepared for the occasion by a mysterious "brick man-poet," were set to the tunes of the old songs everyone knows so well, and everybody left the dining room feeling it had been one of the most enjoyable events of any Annual Meeting since the organization of the A. F. B. A.

The second session was called to order at 10:00 a. m. Thursday, December 1, with Vice-President B. Mifflin Hood

presiding. Dr. G. C. Mars, Director of Service of the A. F. B. A., spoke to the topic of "Results: A Fair Start," and outlined in detail the results which had been accomplished toward the creation of good will for face brick since the inauguration of the advertising campaign. He made a report of number of inquiries received, showing unusual returns, the inquiries constantly increasing, the work of past just beginning to bring results, that an advertising campaign of the kind they were conducting was really of about three years' period and if work was stopped, this year's advertising would continue to get inquiries or results. The inquiries this year were more than double those of last year. Mr. M. S. Clark followed Dr. Mars with a brief talk on the technical preparation of the various publications of the Association, stressing particularly the pride the printers had taken in handling the material so as to display its artistic



Eben Rodgers, President-Elect American Face Brick Association.

possibilities to the best possible advantage. Mr. Herbert S. Houston, former president of Associated Advertising Clubs of the World, and late of the editorial staff of "World's Work" and "Country Life in America," gave a very interesting address in which he presented the viewpoint of an outside disinterested advertising and publicity expert toward the propaganda of the A. F. B. A. His theme was the cumulative value of an advertising campaign and emphasized the necessity of continuity in advertising.

On Thursday afternoon, at 2:30 p. m. a consolidated division meeting was held, at which practically every division of the A. F. B. A. was adequately represented. A general discussion of labor, fuel, transportation and outlook for construction activity during the coming year formed the basis of the program. Very interesting and able reports were presented by manufacturers from various sections of the United States. At the conclusion of the program it was announced that the Association had already come very close to signing up its minimum production, assuring the continuance of another three-year period of activity without interruption. Manufacturers were requested to sign up at once, in order that the officers and directors might know with definiteness just



what support they could count upon in planning the coming campaign.

On Friday morning, December 2, at 10:00 o'clock, an exhibition of the A. F. B. A. moving picture film entitled "The Manufacture of Face Brick" was given in the ball room. This film has been prepared primarily as educational propaganda for the use of schools, universities, civic clubs, etc., etc., and consists of a three-reel presentation of the history of brick beginning with the ancient Egyptians and tracing the subject through the various changes in process and varying types of machinery down to the present-day face brick plant with its modern machines and labor-saving devices. Many excellent examples of brick architecture from all parts of the world are interspersed throughout the film.

Following the exhibition, Mr. E. F. McCullough, Manager, Fabricated Production Department, United States Chamber of Commerce, was introduced and presented a very clean-cut and interesting address on "The Present and Future of Trade Organizations." Mr. McCullough gave a historical resume of the past fifty years of trade association effort, tracing the development of the movement from the time when associa-

tions generally represented only a small proportion of their respective industries, to the present-day status where the machinery has been so perfected that the Government is now seeking contact with the various industries of the nation through their trade organizations. Mr. McCullough's extended remarks upon the use and abuse of association activities were of particular interest to all present, and everyone seemed to feel that his address had been one of the most instructive features of the Annual Meeting.

The election of officers and directors was the next order of business, after which the Tenth Annual Meeting was declared adjourned.

The officers of the A. F. B. A. for the coming year are: President, Eben Rodgers, Alton Brick Company, Alton, Ill.; First Vice-President, B. Mifflin Hood, Legg Brick Company, Atlanta, Ga.; Second Vice-President, T. P. Cuthbert, Fallston Fire Clay Company, Pittsburgh, Pa. New Directors: George A. Bass, W. H. Hoagland, W. Siwart Smit, Paul B. Belden, H. R. Mears, B. W. Ballou and H. R. Beegle.

A meeting of the Board of Directors was held on Friday, December 2, following the adjournment of the final session.

### THOSE PRESENT AT THE TENTH ANNUAL MEETING OF THE AMERICAN FACE BRICK ASSOCIATION.

Andres, John, Evansville, Ind.  
 Adams, J. M., Columbus, O.  
 Adams, A. B., Chattanooga, Tenn.  
 Anderson, J. P., Lansing, Mich.  
 Andrews, C. H., New Castle, Pa.  
 Aseomb, E. E., Dayton, O.  
 Austin, C. P., Binghamton, N. Y.  
 Baldwin, H. L., Chicago.  
 Bartholomew, M., New York.  
 Baker, J. T., Omaha, Nebr.  
 Black, W. C., New York.  
 Bass, George A., St. Louis, Mo.  
 Belden, P. B., Canton, O.  
 Belfire, George A.  
 Binyon, L. D., Chicago.  
 Bogue, J. W., Neodesha, Kan.  
 Brown, H. W., Bueyrus, O.  
 Bonner, Charles, Chicago.  
 Beegle, H. R., New Galilee, Pa.  
 Butterworth, F. W., Danville, Ill.  
 Baird, A. S.  
 Bilque, George A., Pittsburgh, Pa.  
 Bogk, F. C., Milwaukee, Wis.  
 Bullis, W. E., Topeka, Kan.  
 Carter, F. R., Peoria, Ill.  
 Clark, M. S., Chicago.  
 Carlyle, E. C., Portsmouth, O.  
 Carlyle, G. E., Portsmouth, O.  
 Cable, W. N., New York.  
 Cannell, N. M. S., Toronto, Canada.  
 Clark, E. C., Pittsburgh, Pa.  
 Childs, Robert W., Chicago.  
 Conley, Edward F., Bradford, Pa.  
 Cuthbert, T. P., Pittsburgh, Pa.  
 Cooper, R. B., New York.  
 Day, S. K., Chillicothe, O.  
 Davis, A. E., Indianapolis.  
 Dawson, R. R., Watertown, Pa.  
 Devitt, H. B., Niagara Falls, N. Y.  
 Degenhart, W. J., Buffalo, N. Y.  
 Dean, G. P., New York.  
 Dolben, J. A., Boston, Mass.  
 Dryden, S. M., New Galilee, Pa.  
 Dreher, Thos. B., Auburn, Pa.  
 Donohue, John H., Jr., St. Paul, Minn.  
 Ernstberger, C. A., Newark, N. J.  
 Cobbe, A. M., Erie, Pa.  
 Flanders, Ed., Marietta, O.  
 Fry, Will, Memphis, Tenn.  
 Fowler, J. C., Watertown, Pa.  
 Freeman, T. B., Pittsburgh, Pa.  
 Findlay, R. L., New York.  
 Fowler, H. G., Newark, N. J.  
 Dobbs, S. B., Philadelphia, Pa.  
 Gardner, C. A., New York.  
 Garraux, E. W., Raleigh, N. C.  
 Gifford, W. H., Kansas City, Mo.  
 Gibson, David B., New York.  
 Goar, Frank, Nashville, Tenn.  
 Grinnan, J. B., Norfolk, Va.  
 Hartung, P. W., Canton, O.  
 Howington, Thos. E., Louisville, Ky.  
 Hansen, Harry, Toledo, O.  
 Hamilton, H. S., McArthur, O.  
 Hanley, Wm. J., Bradford, Pa.  
 Heffron, Ed., Detroit, Mich.  
 Herrmann, C. F., Tell City, Ind.  
 Herbert, T. L., Jr., Nashville, Tenn.  
 Hindman, F. T.

Howard, J. B., Danville, Ill.  
 Howard, R. B., Chicago.  
 Howard, Emmett C., Columbus, O.  
 Holmes, H. W., Detroit, Mich.  
 Hollands, H. H., Buffalo, N. Y.  
 Hoagland, W. H., Columbus, O.  
 Hood, B. Mifflin, Atlanta, Ga.  
 Hollowell, R. D. T., Chicago.  
 Hurley, J. F., Cleveland, O.  
 Humphrey, A. F., Greensburg, Pa.  
 Hyland, O. R., Portsmouth, O.  
 Harms, John, Cleveland, O.  
 Houston, Herbert, New York.  
 Holmes, F. B., Detroit, Mich.  
 Girard, J. N., Lincoln, Nebr.  
 Jett, W. H. H., Marietta, O.  
 Jones, E. Clinton, E. Fultonham, O.  
 Johannigan, John G., Cincinnati, O.  
 Kaup, John, Boston, Mass.  
 Kemper, H. F., Cleveland, O.  
 Ketcham, P. R., New York.  
 Kelly, H. W., Charleston, W. Va.  
 Knight, E. F., Newark, N. J.  
 Kruer, George, Lansing, Mich.  
 Garrison, H. O., Clarksburg, W. Va.  
 Kane, E. O'Neil, Kushequa, Pa.  
 Landgrebe, G. C., Huntington, Ind.  
 Larrabee, W. M., Clinton, Ia.  
 La Bar, R. U., Seranton, Pa.  
 Laverty, W. A., Brazil, Ind.  
 Lange, W. J., New York.  
 Lehman, David, Columbus, O.  
 Leonard, J. T., Minneapolis, Minn.  
 Lingler, Martin, Hamilton, O.  
 Luckett, G. B., Crawfordsville, Ind.  
 Lucktenberg, J. R., Ashtabula, O.  
 Locher, Charles K., Jr., Glasgow, Va.  
 Mathews, W. T., Columbus, O.  
 McCloskey, B. K., Washington, D. C.  
 McNees, G. W., Kittanning, Pa.  
 McCoy, John J., Milwaukee, Wis.  
 McFadden, C. P., Toronto, O.  
 Mars, G. C., Chicago.  
 Mernagh, R. L., Alton, Ill.  
 Martin, O. R., Lincoln, Nebr.  
 Martin, John D., New Straitsville, O.  
 Mattes, C. F., Decatur, Ill.  
 Matter, S. E., Duluth, Minn.  
 Mandel, Jacob, Philadelphia, Pa.  
 Manson, F. C., New York.  
 Martin, S. C., Pittsburgh, Pa.  
 Manning, F. L., Portsmouth, O.  
 Miles, H. T., Maysville, Ky.  
 Miller, C. F., Darlington, Pa.  
 Mott, John, Utica, N. Y.  
 Mossman, F. V., Huntington, W. Va.  
 Moulding, T. C., Chicago.  
 McCullough, E. W., Washington, D. C.  
 Mannakee, N. H.  
 Massie, C. W., Charleston, W. Va.  
 Muckmeier, C. V., Indianapolis.  
 Moncure, J. A.  
 Nicholson, J. B., Toronto, O.  
 Oldham, E. B., Lexington, Ky.  
 Owens, F. T., Watertown, Pa.  
 Parry, J. H., Boston, Mass.  
 Price, H. H., Chicago.  
 Purcell, H. Allen, Cincinnati, O.

Plumb, E. F., Streator, Ill.  
 Queisser, R. H., Cleveland, O.  
 Reid, A. S., Newark, N. J.  
 Richards, B. H., Edwardsville, Ill.  
 Rodgers, Eben, Alton, Ill.  
 Rothert, H. C., Huntington, Ind.  
 Robertson, J. G., Boston, Mass.  
 Rockwell, J. A., Omaha, Nebr.  
 Ryttenburg, Sumter, S. C.  
 Rutzler, R. L.  
 Swan, Theo. H., Rochester, N. Y.  
 Shaffer, T. J., Columbus, O.  
 Schario, E. J., Canton, O.  
 Sprague, L. W., McArthur, O.  
 Spaulding, H. M., Boston, Mass.  
 Steinhoff, F. L., Chicago.  
 Stevens, D. F., Danville, Ill.  
 Sheehan, John B., Bradford, Pa.  
 Shannon, P. D., New Galilee, Pa.  
 Stewart, E. A., Canton, O.  
 Stephenson, L. L., Birmingham, Ala.  
 Simpkins, Ralph, St. Louis, Mo.  
 Spickelmier, Carl.  
 Stilz, Fred D., Indianapolis.  
 Simms, F. H., Birmingham, Ala.  
 Sibley, John W., Birmingham, Ala.  
 Sietz, C. E., Blacksburg, Va.  
 Smit, W. S., St. Paul, Minn.  
 Stoner, John M., Cincinnati, O.  
 Solms, F. C., Detroit, Mich.  
 Shorey, D. C., Cincinnati, O.  
 Shoemaker, G. W., Brazil, Ind.  
 Sloan, N. H., Paterson, N. J.  
 Supple, G. J., Danville, Ill.  
 Sullivan, J. P., Chicago.  
 Starr, A. Q., Trafford, Pa.  
 Samuel, C. B., Chattanooga, Tenn.  
 Spencer, Ralph, Detroit, Mich.  
 Schaal, H. B., Nelsonville, O.  
 Stamm, August, Cincinnati, O.  
 Stratton, C. C., Bradford, Pa.  
 Smyth, H. A., Madison, Wis.  
 Shoemaker, W. A., Indianapolis.  
 Turpin, J. P., Cincinnati, O.  
 Thomas, E. M., New York.  
 Taylor, Robert, Jr., New York.  
 Thrower, R. R., Atlanta, Ga.  
 Whaley, Wm., Louisville, Ky.  
 Waterman, F. E., Toronto, Canada.  
 Wheeler, B. F., Chicago.  
 Weaver, D.  
 West, Wm. P., Columbus, O.  
 White, H. F., Columbus, O.  
 Wilde, L. G., Cincinnati, O.  
 Witters, R. L., Toledo, O.  
 Wilson, R. L., Pittsburgh, Pa.  
 Wilson, R. F., Pittsburgh, Pa.  
 Williams, F. G., Atlanta, Ga.  
 Wiseman, H., Charleston, W. Va.  
 Wray, John, New York.  
 Weaver, C. H., Wilkes-Barre, Pa.  
 Wilcox, O., Alliance, O.  
 Warren, H. C., Louisville, Ky.  
 Wilson, F. G., Philadelphia.  
 Walters, Carl C., Chicago.  
 Wamper, John M., New York.  
 Wamakee, W. H., Bloomfield, Wis.  
 Dore, Herbert, Chicago.



## AMERICAN VALUATION.

Address before the U. S. Potters' Association, Washington, D. C., December 6, 1921 by the Hon. Marion DeVries.

Gentlemen of the United States Potters' Association:

I thank you for the compliment of an invitation to address so representative an association of our country's producers and employers of American labor. When, however, the integrity of one's statements upon the assigned subject has been publicly challenged, the obvious preliminary duty is to meet that challenge, that thereafter one's statements may properly be weighed.

In the issue of November 14, 1921, of "China, Glass and Lamps," a journal devoted to your industries, I assume, read by all of you, is a statement addressed the editor which reads:

Boston, Mass., November 3, 1921.

In your issue of October 31st I notice that in your article "Judge Shows Justice of American Valuation Plan," you quote Chief Justice DeVries as stating "Indeed no oath whatsoever is required with the declaration accompanying the entry at the Custom House, which, in its present adopted form, is without force or effect."

This is absolutely untrue for no Custom House in the United States will accept an importer's entry without his oath having been taken before a notary public and as I am sure you desire to print nothing but the truth for your readers, I trust you will print this contradiction.

Truly yours,

JONES, McDUFFEE & STRATTON CORP.,

Theodore Jones, President.

Fortunately the sharp issue of fact here made may positively be determined by the language of the pertinent law itself, and the form of declaration adopted by the Treasury Department under that law. The applicable statute is paragraph F of Section III of the presently effective Customs Administrative law. That paragraph in so far as pertinent reads:

"F. That whenever merchandise imported into the United States is entered by invoice, a declaration upon a form to be prescribed by the secretary of the treasury, according to the nature of the case, shall be filed with the collector of the port at the time of entry by the owner, importer, consignee, or agent, which declaration so filed shall be duly signed by the owner, importer, consignee, or agent before the collector, or before a notary public or other officer duly authorized by law to administer oaths and take acknowledgments, under regulations to be prescribed by the secretary of the treasury."

Does that statute require the declaration be sworn to, or an oath be taken, before a notary public or other officer? Obviously not. It requires that the declaration be "signed" only before such an officer, and, mark you, particularly permits the declaration to be "signed" not only by the "owner," "importer," "consignee," but also what is here most important, by an "agent."

Here importance is, that the law requires and requires only that this declaration be "signed." It does not require that it be either "sworn" to or "acknowledged." Indeed, should the secretary of the treasury, acting under this limited statutory authority, prescribe a regulation or form of declaration requiring that such be either "sworn to" or "acknowledged" a serious question would be raised as to its legality as being beyond his statutory power. The statutes abound with similar requirements, that instruments and papers be "signed" before consuls, courts, notaries and other officers, but by such it is required only and that alone that thereby the subscribing witnesses be of the prescribed dignity and office for obvious reasons. It is not a requirement or an authorization of an oath or acknowledgement, and so it has always been held by the treasury and the courts. Fully cognizant of his legal powers in the premises, the secretary of the treasury has prescribed a form of declaration which requires neither oath nor acknowledgment in due execution of declaration upon entry. I read you the prescribed and uniformly used declaration upon consumption entry, and the much less

used warehouse entry declaration differs in no essential particular therefrom. The former reads:

"I do truly declare that \* \* \* (Name of owner, purchaser, or ultimate consignee) \* \* \* address (number, street, city, state) \* \* \* IS THE OWNER, PURCHASER, OR ULTIMATE CONSIGNEE of the merchandise described in this entry, and in the invoice or invoices now presented to the collector of customs, and that the said merchandise was imported on the date and in the vessel or conveyance at the port named above; that the invoice or invoices are in the state in which I received them, except as to marginal notations; that I have not received and do not know of the existence of any other invoice, writing, paper, or agreement showing a different price, value or description of the said merchandise, and that if at any time hereafter I discover any error or misstatement in the invoice or invoices now presented, or receive any information, or any invoice, paper, or writing showing a different price, cost, or value, I will immediately make the same known to the collector of customs at the port of entry:

"And I further declare if this declaration is executed by me as owner, purchaser, or ultimate consignee, that the said invoice or invoices are in all respects correct and true and truly state the price paid or to be paid for all of said merchandise as has been purchased or agreed to be purchased:

"And if this declaration is executed by me as agent, that all of the statements contained therein are correct and true to the best of my knowledge, information and belief.

"\* \* \* (Signature of owner, purchaser, or ultimate consignee.)

"\* \* \* (Signature of agent.)

"Capacity \* \* \* (Title of officer or corporation, member of firm or agent.)

"Signed and declared to before me on..... 192...

"\* \* \* (Deputy collector or notary public.)"

Please note that the declarant does not and is not required to say—I do "hereby swear," nor—I do hereby "acknowledge," but, I do truly "declare." That is no more an oath or acknowledgement than when a testator in his will says, I hereby "declare" this my last will and testament. Note that the same prescribed language is used in the declaration before the consul abroad, to-wit, "I do solemnly declare;" yet no one would for a moment contend such an oath or acknowledgement. And so the notary or deputy collector subscribes the declaration, not "subscribed and sworn to before me" or "duly acknowledged before me" but "signed and declared."

Now contrast this statute and the prescribed declaration upon an entry for American goods returned. That declaration is printed on the back of the same consumption entry form before read to you, and reads:

"I do solemnly, sincerely and truly swear," and the jurat of the notary reads "signed and sworn to before me" \* \* \* notary public.

These contrasted forms upon the same entry, precisely indicate the difference, and conclusively show that the declaration upon entry is neither sworn to nor acknowledged, nor so required by the law or regulations.

And even were this prescribed form of declaration made under oath, which it is not, I repeat my challenged statement, that in its presently adopted and used form, it is without any force or effect. I challenge as absolutely untrue the statement of Mr. Jones which I quote. He says: "That no Customs House in the United States will accept an importer's entry without his oath having been taken before a notary public." There is, as I have shown, no oath whatsoever taken, and further, the statute and regulations do not require the "importer" himself to do anything, but all these entries and declarations may be and are in the most instances "signed" and that only by an agent of the importer usually his custom house broker. And here is the rub. Here it is wherein as I have said this declaration "is without any force or effect whatever." Note carefully the approved form of declaration requires, when made by the "owner," "purchaser" or "ultimate consignee," that he declare "that the said invoice or invoices are in all respects correct and true and truly state the price paid or to be paid for all of said merchandise as has been purchased or agreed to be purchased."

When this declaration, however, is made by an "agent" as it usually is, there is no requirement that he shall especially or at all declare, as in the case of the owner, importer or consignee, "that the invoices are in all respects correct and



true and truly state the price paid or to be paid for the merchandise," but, when made by the agent, he declares only "that all the statements contained therein are correct and true according to his knowledge, information and belief."

Here we locate the proverbial African in the wood pile. Here it is, as I have said, and repeat, that this adopted form of declaration "is of no force or effect whatever." For, the importer might have a safe full of false invoices and his letter files be teeming with guilty correspondence, unknown to his agent or broker, with offices miles away and without the slightest knowledge of the true facts of the transaction, or sales, or market prices of the imported articles abroad. And, yet, under this adopted form of declaration, this agent can and usually does make due entry of the goods upon a declaration stating the same is true only so far as he knows, is informed, and believes, the statements are correct. The adopted form charges him with no absolute knowledge of the value of the goods, or the prices paid for them, or good faith of the transaction in order to enter them. In complete ignorance of the transaction, he is made competent to enter the most fraudulent importation. Any school boy can see that such a declaration made by agent might be absolutely true, and, yet, under it, goods be imported and entered with fraudulent knowledge and purpose on party of the importer.

Is it astonishing, therefore, under this system that at the port of New York alone, during the year 1920, 5,987 declarations were challenged by the appraiser as false and the invoices accordingly raised; and that during the month of February, 1921, alone there were 418 such? For my part, I hold that entry should be permitted no imported goods except under oath of the importer or the party importing such, and that, if entered by an agent, that agent should be made amenable by law to the guilty knowledge of the principal.

So I repeat with emphasis that every day millions of dollars of goods are being imported into the United States, without the requirement of a single oath by any person whomsoever abroad or in this country, and under adopted forms of entry and declarations that are absolutely without any force or effect.

The import tariff is a tax which in all cases here pertinent is levied upon the foreign value of the imported article, and the invoice and entry papers are the tax statements. Why is it then that in all other cases and as to all other taxes in this country, municipality, state and federal, the taxpayer is required to make oath as to values in his tax statements, and not as to import taxes? Is there any reason why we should by law challenge the integrity and patriotism of our own, and admit that of the foreigners? Let us hope, as I confidently believe, that the present Congress will rest the certainty of its import revenues upon the stable basis of American conditions rather than the unrestrained foreign conscience and unverified foreign invoices and ineffective declarations.

But that loose and false challenge of my earlier statement is but in harmony with all the great flood of statements against American valuation with which the country is being deluged by those who are intentionally or recklessly advocating the upbuilding of foreign industries and the employment of foreign labor, as against such patriotic endeavors as are being put forth by your and other organizations and individuals in behalf of American industries and American labor.

If the controversy were conducted with candor and fairness the principle of American valuation for our imported wares would have no disputants by reason of the single indisputable truth, that it has nothing whatsoever to do with the rate or amount of duties to be paid. It levies no duty. It makes neither a high nor a low nor any tariff. It does, however, fix a certain, uniform, less defeasible and fraud proof basis for our revenues, and for the duties levied in defense of our industries and labor.

In disguise of the real purpose of the attack, therefore, and in utter disregard and in misrepresentation of the truth of the situation, this proposed basis of duties is denounced as responsible for the rate prescribed. Candid, fair, honest presentation would direct those efforts against the proposed rate, but not the proposed basis of duties.

Perhaps no controversy of equal importance has witnessed so much adjective language, as that so applied, although wholly and in instances admittedly, inapplicable to the precise legislation which will ultimately be enacted. One of its chief opponents frankly admitted to the speaker that they were directing their arguments against the rates of and a single

provision of the Fordney bill as it passed the House, knowing full well the former entirely foreign to the discussion and the latter long since abandoned by unanimous joint action of the majority members of the Finance and Ways and Means Committees. By that authority it has been agreed and published that the American valuation plan would be based upon the wholesale market value in the principal markets of this country: (1) of like or similar American goods, or, (2) in the absence thereof of such or similar imported goods, or (3) in the absence of all such, upon the foreign cost of production of like or similar imported goods.

Now in what does the present system differ from the foregoing? Thereunder our import duties are assessed upon the wholesale market value in the principal markets of the particular country, whence exported, (1) of the imported article or in the absence of such market value, that of similar imported goods, for home consumption therein. Please note not for export, which is the invoice, and, almost uniformly, a different market value, (2) or, in the absence of a market value for home consumption of such or similar imported goods, the cost of production thereof.

Of these respective systems it is declaimed with exhaustive adjective denunciation that the latter is the same method of one hundred years, while the former is "theoretical, untried and impracticable." Any effort to assemble a fraction of other adjectives used would exhaust the limits of this presentation. Now what is there "theoretical" or "impracticable" in this proposed American system? Let us not lose sight of the real legislative systems, existing and proposed.

The only things that possibly can affect the importers' interests under any system, are the duties to be paid and penalties for undervaluation. The amount of duties to be paid as stated depends upon the rate established and in no wise, in the remotest degree, depends upon the basis of those duties. So, that element of the case is clearly excluded. Nevertheless, by sophistry and for the purpose of clouding and falsely representing the real issue we daily observe this ridiculously false claim asserted.

Typical of the arguments with which the country is being flooded is one before me of a certain college professor. Reading it carefully I count numerous misrepresentations of what is the declared purpose of the committees of Congress to write in the law. I dare say not one in a hundred of these critics have ever read intelligently the proposed law or know its several provisions affecting this plan of assessment. Obviously if they have they carefully conceal them and their import from the country. Each disputant sets up a bogymen, the result of his immature ideas how the law would be enacted, and fires a broadside at this creation. Candid, intelligent, patriotic discussion ought to be confined to the truth. Measured by this obvious rule ninety per cent of the fusillade against the American valuation plan is misrepresentation. The sole and only thing the basis of duties affects or effects is the penalties for undervaluation. And here lies the pinch. Here is the cause for this violent denunciation of the American plan. It is said first, that no importer can know at what value to enter his goods. What is to be known is the value in our markets (1) of like or similar American goods, (2) or if none such, of like or similar imported goods, (3) if none such, the cost of production abroad of the imported article plus freight, charges and duties to our markets. What is it this proposed law requires of the importing merchant that is impracticable and theoretical? Why nothing more or less than what of necessity every successful merchant now knows. Are our importing merchants fools? Are they ordering and importing into this country millions of dollars of goods without first knowing exactly what both the competing domestic and competing foreign article is selling for in our markets? Will a single, capable successful importing merchant of this country stand up and say that he is ordering and importing goods into this country without first finding the principal markets therefor and values thereof in such markets and the value of all other competing goods American and foreign therein?

Business men are not that reckless as to engage in competition in our markets without first knowing those markets. And while those markets vary they do so no more than, if as much as, the foreign markets, now the standard of our appraisements. On the contrary, being in the midst of our markets and intimately in touch therewith by means of the telegraph, telephone and daily quotations of the press, all to be supplemented by the government agencies for that pur-



pose provided by the Fordney bill, they can exactly inform themselves every hour or every day of the exact market value of all competing American and imported merchandise. Upon the other hand the present system requires that the merchant for entry purposes inform himself of the market value of the imported goods for home consumption in the distant foreign country and at the time of exportation. Now which is the more practicable? Which is the more reasonable, to require the merchant to be advised of his competing values in this country, or, local values of some country, thousands of miles away? The plain truth, is, as known to all familiar with these proceedings, that the latter cannot be practically or effectively done, either by the merchant for entry purposes or the appraising officers for appraisement, and, if falsely done cannot be so shown because in ninety-nine cases out of every hundred it is beyond our jurisdiction for inquiry or punishment. All who know anything of this system know it results simply in the invoice or export value being accepted as the foreign home market value. That export value more often than not actually differs from the foreign home market value. Under the existing system, therefore, it results, and has obtained for one hundred years, that the foreign exporter without any oath or other constraint than his conscience fixes the value upon which our import customs duties are levied. Why not have him also fix the rates? Common sense renders it obvious that it is just as effective to have the power to fix the basis as the rates of our tariff laws. Either is a power to effectively destroy both the revenue and protection thereby secured. If there were no other virtue to American valuation than that it would compel our importing merchants to thoroughly acquaint and keep themselves posted upon the American markets in which they are trading, that system would have its vindication in this beneficial requirement. If they are not now so advised they will be compelled so to be under the American plan, whereby obviously better business methods will be assured. But how about the appraising officers?

The importing merchant for entry purposes is now required to know the home market value at the day of exportation of the particular country whence comes his invoice, regardless of the date ordered or purchased. The appraising officers as well under present law must daily be advised of that value in every country exporting to the United States at all times and all the variances of that market in every such exporting country. The identical goods, and, if none such of similar goods, and, if none such, the cost of production thereof at the factory, plus packing charges, plus freight to the principal market of that country.

It should ever be borne in mind that under both the proposed American and existing foreign system imported goods are appraised at the market value on the day of exportation from the country of production. Under the proposed American system, then, the importer has the time from the day of shipment until arrival in the United States to ascertain the prescribed market value in the United States for entry purposes. Under the existing system he has for entry purposes to do the same, to-wit, ascertain the market value on the day of exportation, regardless of when the goods were ordered or bought, and, that, though the foreign country of exportation may be thousands of miles over the seas and beyond any reasonable means of ascertainment. Remember that at present it is not the invoice, or contract, or export value that he must ascertain and enter his goods at, but the market value for home consumption, in the country of exportation, and that is and has for a century been the law. I submit in all candor and fairness that the American system presents by far the easier and more certain method of ascertaining the value at which goods shall be entered, and, therefore, the opposition in truth is for other and hidden reasons.

The mere mention of these absurdities must convince the fair mind that the present system is a rank impossibility in its performance and administration, results in the foreign invoice being accepted as the dutiable value of the imported goods, and that thereby the foreign exporter fixes the dutiable basis of our imported goods. And this is the "sane system of one hundred years."

Now while it was before said that the American plan as a basis for our import duties has nothing to do with the amount of duties, the prescribed rates alone affecting that, it does, however, prescribe and regulate the penalties assessed for undervaluation, and that is where the pinch comes.

But is it not plain to all that if provision is made by the law that upon a showing of good faith by the importer he shall be relieved of these penalties, no honest man can complain thereof? Such a provision is contained in the Fordney bill and such a provision is not now and never has before been written in any tariff law. Further, the Fordney bill provides, as a part of the American system, that any importer may appear before the appraiser after his goods have left the country of exportation, while en route, and upon exhibition of the evidence and facts of his purchase, require of the appraiser an "advisory" appraisement for entry purposes, which if he so enters his goods, will estop any possible penalties being assessed.

Furthermore, the Fordney bill provides that all price and market value data gathered by the agencies of the government shall be made available in aid of importers upon entry and the appraisers upon appraisement.

Neither now nor for a hundred years past have our tariff laws provided either relief against penalties on a showing of good faith, or compelled advisory appraisement in their avoidance.

Has any one heard or read in these violent denunciations of the American plan any suggestion of these absolute safeguards to all honest importers being provided as a part of that plan?

No system in a hundred years, so practicable or so reasonable and fair to the honest importing interests has ever been proposed by the committees of Congress. Whoever studies and rests decision upon what is here really proposed, rather than in myriad wild criticisms of what is not proposed, must render judgment in favor of the American system.

Supplemented by provision for valuation tariffs, for seasonal and contract goods ordered or purchased long before imported, whereby upon such engagements being made importers may appear before a duly constituted board or other authority and after full investigation and hearing, have established a valuation basis for such classes of goods, to be effective at the future time and as imported, a provision which should exist under all systems of appraisement, absolute safeguards will be provided whereby no honest importer can possibly suffer injury, harsh penalties of the existing system will be removed and the wrecking influence of undervaluation and frauds be forever made impossible.

Bearing in mind that the adoption of American valuation will be a radical change, particularly from the presently enforced law, I believe that change should be effected gradually and after due hearing of those interested. In the Gray Book submitted the Committee upon Ways and Means by my associates and myself a careful plan of legislation to that effect was presented and recommended. In an address at Chicago of the same purpose I stated:

"In addition thereto is the large question in this proposed legislation, whether, in view of its great importance upon our industries, the law should be enacted upon the basis of hastily estimated values and equivalent ad valorem, or should be enacted upon the basis of foreign values, committing to the tariff commission or some specially constituted tribunal such as is presently designed the power and duty after full and fair hearings of all interested to convert these ad valorem, first, when wise into specifics, and secondly those remaining to American valuation ad valorem. Candidly I have ever asserted the latter view, and am now firmly convinced of its superior wisdom.

The message of the President addressed the Congress on yesterday was in perfect accord with these views.

Let us have American valuation, carefully and fairly calculated, adjusted with due regard to all interests and all industries, gradually but certainly and as speedily as consistent therewith made effective.

There should, however, be no uncertainty and the mandate of the tariff act should be, that as speedily as practicable, the tariff commission should proceed to a conversion of the tentative rates upon the foreign valuation basis to equivalent rates upon the American valuation basis, and, the President be authorized to put the same into effect upon the earliest practicable notice, supplementing the same from time to time with valuation tariffs for season, contract and such other goods as trade and commerce may be found to warrant.

For the controversy between foreign and American systems of tariff valuation, is not so much one between the merits of methods as it is between honest and dishonest



valuation. It is a fight between American industries and foreign industries, which shall occupy the markets of the United States; between American labor and foreign labor, which, in days of stress, shall be employed and which shall walk the streets; between in these days, the American home and the foreign home, which shall, and which shall not, be prosperous and contented. Therefore, let all who are for foreign industries, foreign labor, and foreign homes stand for the foreign plan; let all who are for American industries, American labor, and American homes stand for the American plan and for America. Great applause.

## RECENT PATENTS IN THE CLAYWORKING INDUSTRY.

[Full details and specifications of the following patents may be had by addressing The Commissioner of Patents, Washington, D. C., and enclosing ten cents for each patent wanted. In ordering, give patent number only.]

**No. 1,395,462. Kiln for Burning Clay Products.** Henry Webster, Newport, Ky., patentee.

A kiln of the character described, comprising a series of heating chambers, with a solid wall dividing the chambers from each other, a main flue for the products of combustion common to all the chambers, with furnaces along the side of the kiln opening into their respective chambers and passages opening downwardly through the floor of each chamber, with transverse passages underneath the floor connecting with the main flue, for the purpose described.

**No. 1,397,505. Paving Brick.** Frank B. Dunn, Conneaut, Ohio, patentee.

As an article of manufacture, an unpressed paving brick cut from a continuous column of clay having two transverse grooves in one of the die-formed surfaces thereof, and perimetrical studs projecting from the surface of said die-formed surface adjacent to the same relative side of each of said transverse grooves, substantially as set forth.

**No. 1,397,035. Building Brick.** Thomas Colosimo, Gary, Ind., patentee.

A building block comprising a body portion having vertically disposed air spaces on opposite sides of its median line, and of a greater length than one-half the length of the block, a continuous centrally disposed groove in two sides and one end of said block, a recess formed in one end of the block and communicating with said groove, and a projection at the other end of said block of less length than the depth of said recess.

**No. 1,384,435. Tunnel Kiln.** Philip D. Dressler, Zanesville, Ohio, patentee. Patent assigned to American Dressler Tunnel Kilns, Inc., New York, N. Y.

In a continuous tunnel kiln, the combination with a kiln chamber having an elongated hot zone, of a plurality of combustion chambers arranged in an end to end series extending longitudinally of the hot zone and having air and gas inlets at one end and an outlet for products of combustion at the other end and of such proportions that the distance between the inlet and outlet of each chamber is several times the maximum transverse dimension of the chamber.

**No. 1,397,227. Brick-Cleaning Machine.** Edward L. Minor, Birmingham, Ala., patentee.

A rotatable rack having a concentric series of axial supports with floating metallic disks mounted thereon, and a bed above which the peripheries of the rotating disks will project to engage an article thereon to be cleaned.

**No. 1,384,393. Process of Manufacturing and Handling Brick.** Grafton Luce, Chicago, Ills., patentee.

The process of handling articles during their continuous travel, which consists in moving a carrier against their line of travel, engaging said articles and then retracting said carrier at a speed equal to or greater than the travel of the articles.

**No. 1,395,507. Brick and Wall Construction.** Sylvester Marsteller, Carrick, Pa., patentee.

A channel brick including a flat body portion having parallel side members projecting from one face thereof, said members being provided at their outer edges with mortar grooves and the opposite face of the body portion being provided with corresponding mortar grooves, the members defining an intermediate air space and having substantially the size of a building brick, and a hand hold projecting into the said air space from an intermediate portion of the body portion.

**No. 1,385,961. Building Brick.** James P. Williams, Milton, Pa., patentee.

A building-brick comprising side load-sustaining members, hollow throughout their length to provide longitudinal air-cells; a central load-sustaining member of approximately the same dimensions as the side members and also provided with a longitudinally-extending air-cell; there being at least three of such air-cells in the brick; and solid webs connecting the central load-sustaining member with each of the side members and extending in horizontal planes from the central member approximately midway of its top and bottom portions.

**No. 1,396,189. Arch Protector for Clamp Kilns.** Frederick Gleckler, Oak Harbor, Ohio, patentee.

In a kiln of the class described, the combination with a ware arch extending from a furnace opening in the kiln wall, of loosely positioned brick forming a subarch or tunnel within the ware arch extending a distance into the ware arch from the furnace with the spaces between the bricks forming lateral distributing openings for the flame and hot gases of combustion from the sub-arch and into the ware arch.

**No. 1,385,867. Brick Conveyor.** Harry E. Fuller, Newhall, Iowa, patentee.

A brick carrier comprising a pair of brick engaging members, one of said members being pivoted relative to the other, said last brick engaging member being capable of slight pivotal movement on a vertical axis, a handle arranged above and between said members and mounted on one of said members, a latch device mounted on said last member adapted to engage one end of said handle for locking the brick engaging members against movement.

**No. 1,386,530. Brick-Kiln Construction.** James T. Pokorney, Paris, Texas, patentee.

In a brick manufacturing plant, a fire-chamber, drying and firing chambers arranged in superposed relation above the fire chamber, the floor of the drying chamber having openings therein to admit the heated air circulating about the exterior of the fire chamber, and fuel conducting pipes connecting the firing room with the fire chamber.

**No. 1,395,990. Manufacture of Bricks.** Walter W. Crawford, Kew Gardens, Surrey, England, patentee.

The method of manufacturing bricks and the like, which comprises a suitable gangue in an oxidizing atmosphere, then mixing the burned material with a relatively small quantity of dehydrated cement, then moistening the mixture and pressing the same into form, then immersing said pressed form in cold water, and finally drying the pressed bricks at a low temperature.

**No. 1,385,299. Building Brick.** George A. Bilque, Crafton, Pa., patentee.

A hollow twin brick structure having two stretcher faces and two header faces, all of said faces having substantially the same dimensions, one of said header faces being provided with a centrally located channel-shaped recess adapted to divide said face into two similar header portions, the sides of said channel-shaped recess intersecting the header face at substantially right angles to form square corners on each of said header portions, and a portion of the inner wall of said recess being formed at substantially right angles to the said side walls thereof to give a definite depth to the recess.

**No. 1,384,768. Crane for Handling Brick.** Grafton E. Luce, Chicago, Ills., patentee.

Apparatus of the kind described comprising, a rotatably mounted table, a carriage mounted for forward and backward movement thereon, a boom carried by said carriage, a frame suspended from said boom, and links connecting said frame and said carriage to maintain the same parallel to each other.



## OFFICIAL ANNOUNCEMENT



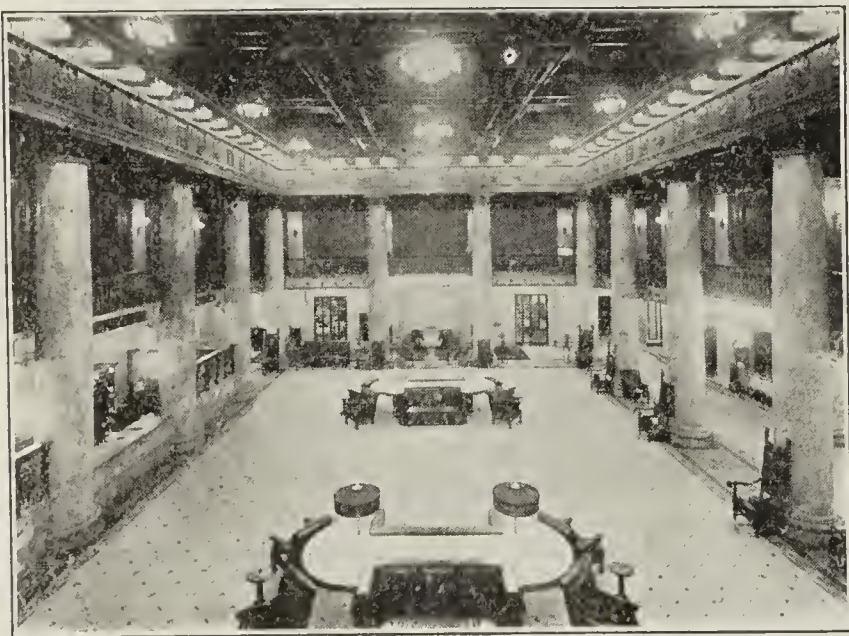
## THIRTY-SIXTH ANNUAL CONVENTION TO BE HELD IN INDIANAPOLIS JANUARY 23 TO 28, 1922.

THE NATION'S CENTER, in and about which the great industrial interests teem with activity, is surely the ideal location for a great national convention. For this and other reasons the Executive Committee has decided to hold the Thirty-sixth Annual Convention of the National Brick Manufacturers' Association in Indianapolis the week of January 23, 1922. The Hoosier capital is "No mean city," as President Harrison said in one of his many memorable addresses, and his fellow townsmen have proudly used the appellation as a slogan ever since.

At the annual meeting, held in Indianapolis in 1918, many of the members complimented the local committee on the exceptional facilities afforded the delegates. At subsequent conventions frequent reference has been made to the success of the meeting in Indianapolis, on account of which the wish has been often expressed that we might meet there again.

### The Most Get-at-able City.

The Hoosier capital has many advantages as a convention city. It is the greatest inland railroad center in the world.



Main Lobby, Claypool Hotel.

It is the most get-at-able city in the nation, being but a few miles from the actual center of population. From it radiate many of the great trunk lines, affording fast through train in service to all of the leading cities, East, West, North and South. By the same token, those who wish to extend their trips to winter resorts may secure through sleeper service. Those desiring to attend the annual convention of the Common Brick Manufacturers' Association at St. Louis the follow-

ing week can make one trip cover both meetings, and special Pullman service will be arranged for the trip from Indianapolis to St. Louis. Should any of the delegates so desire, they can make side trips on the way to St. Louis, stopping at Crawfordsville, Brazil and Terre Haute, Ind., and Danville, Ill., where there are great brick and tile plants which operate the year around.

From every viewpoint Indianapolis is a very happy choice, and it is anticipated there will be a very large attendance. A real Hoosier welcome awaits every visitor.

### The Claypool Hotel Headquarters.

As at the previous convention, headquarters will be at the Claypool Hotel, which is noted for its unexcelled facilities for convention functions. Its beautiful lobby, its great banquet hall, known as the Riley room, and its convention halls give it high rank for all business and social gatherings of whatever character. The clay crafts are now confronted with many serious problems, the solution of which requires the best thought and effort of all engaged in the industry. The chief aim and purpose of the N. B. M. A. is to encourage and promote improved methods of operation, thereby improving the character of the ware, the amount of the plant output and economy in operation. It is the one national organization through which this work may be accomplished properly, and every brick and tile manufacturer in the land will profit by attending the meetings and taking an active part in same. All sessions are open to the public.

### Reduced Railroad Rates.

The Central Passenger Association has granted the National Brick Manufacturers' Association a reduced rate on the certificate plan to delegates and those accompanying them to the Thirty-sixth Annual Convention, Indianapolis,



The Famous Riley Room, the Scene of Many Notable Banquets.

Ind., January 23 to 27, 1922. Other passenger associations have been requested to concur, making the rate operative from nearly all sections of the country. Delegates will pay full fare going and take a certificate for same from the railway agent. This, when properly vised, will entitle the purchaser to a return ticket at one-half the fare paid going, making one and a half fare for the round trip.

To make this rate available, 350 certificates or more must be presented. If each and all of those who attend will procure the desired certificate a recurrence of the disappointment experienced at the last meeting will be avoided. With over 500 in attendance in New York City there were less than 300 certificates and consequently the reduced rate was not available to anyone.

Let us profit by experience and avoid a recurrence of that situation.



Every Delegate Should Take a Certificate.

WHEN REQUESTING RESERVATION for Pullman service, tell the agent you want a certificate for each fare paid to Indianapolis, on account of the convention of the National Brick Manufacturers' Association. Thus you will avoid any annoyance or delay. There will be no charge whatever for the certificates, so even if there is a chance of returning by a different route, TAKE THE CERTIFICATE ANYWAY. It costs nothing and it may mean a saving to other members of the Association in that it will help make up the requisite number. Bear this in mind when buying railroad tickets, and insist on having a certificate. If it is not used, the purchaser will be out nothing, and may save half the return fare.

Those desiring further information relative to the program, which is now in course of preparation, the requisites of membership, or any other particulars, are requested to address the Secretary at Indianapolis.

THE EXECUTIVE COMMITTEE.

W. E. Dunwody, President.

Theodore A. Randall, Secretary.

OTHER ASSOCIATIONS TO MEET AT INDIANAPOLIS CONVENTION WEEK.

THE INDIANA-ILLINOIS DIVISION American Face Brick Association will hold a meeting at the Claypool Hotel, convention week, the exact date has not been definitely determined, but it will probably occur Tuesday, January 24. For further information, address R. D. T. Hollowell, Secretary, 110 South Dearborn Street, Chicago, Ill.

THE INDIANA DRAIN TILE ASSOCIATION will meet with the N. B. M. A. at the Claypool Hotel Convention week,



The Assembly Room, or Convention Hall, Claypool Hotel.

holding their first session Tuesday morning, January 24. All drain tile manufacturers of adjoining states are invited to participate. For further particulars, program, etc., address James E. Randall, Secretary, Indianapolis.

THE INDIANA PAVING BRICK MANUFACTURERS' ASSOCIATION will have a special meeting at Indianapolis during the week of the National convention, to consider ways and means of boosting brick pavements during the coming season. Will P. Blair, Vice President of the National Paving Brick Manufacturers' Association, will present a paper on "The Sub-Drainage of Roadways," which will be of particular importance to paving brick and drain tile manufacturers. For program,

etc., address R. H. McKinley, Fidelity Trust Bldg., Indianapolis.

ON TO ST. LOUIS.

Anticipating that many of those in attendance at the National Convention will journey on to St. Louis to attend the Third Annual Convention of the Common Brick Manufacturers' Association, held at the Statler Hotel, beginning January 30, special Pullman accommodations will be provided for either night or day trips as the delegates may prefer. The latter will permit of side trips or stops at such points as Crawfordsville, Brazil, Terre Haute, Veedersburg, Ind., and Danville and Alton, Ill., and other points where brick and tile plants are located, and which may be visited if weather conditions will permit. Special itineraries will be made for any members desiring same, if they will communicate their wishes to Secretary Randall.

OTHER CONVENTION DATES.

January 24, 1922—Kentucky Clay Products Association, Louisville, Ky., Secretary, J. Crow Taylor, 642 South 40th St., Louisville, Ky.

January 30, February 1 and 2, 1922—Common Brick Manufacturers' Association, Hotel Statler, St. Louis, Mo. Secretary, Ralph P. Stoddard, Schofield Building, Cleveland, Ohio.

February 27, 28, March 1 and 2—American Ceramic Society, Hotel Statler, St. Louis, Mo. Secretary, Charles F. Binns, Alfred, N. Y.

February 7, 8 and 9, 1922—Canadian National Clay Products Association, Carl-Rite Hotel, Toronto, Ontario. Secretary, Gordon C. Keith, 51 Wellington St., Toronto, Ontario.

AN N. B. M. A. CONVENTION SIDE TRIP.

THE ANDERSON FOUNDRY & MACHINE COMPANY, Anderson, Ind., extends an invitation to those who will attend the convention of the N. B. M. A. at Indianapolis, January 23rd to 28th, to visit Anderson and inspect their shops and products on their way to or from the convention. Anderson is thirty-six miles east of Indianapolis on the Big Four railroad. It can also be reached by the Indiana Union Traction lines. Anderson is the home of the Berg Brick Presses, also the Anderson Oil Engines which they now make from 30 to 330 H. P. The factory is up-to-date in



A Glimpse of One of the Main Dining Rooms.

every respect as to equipment and facilities and visiting brickmakers will be extended the glad hand on any and all occasions and particularly convention week. W. N. Durbin, who for many years has been a regular attendant at all N. B. M. A. conventions, and who numbers among his personal friends almost every member of the association, will gladly give personal escort to any delegates who wish to make a side trip at that time.





THESE COLUMNS ARE OPEN TO ALL. THE FULL NAME AND ADDRESS IS REQUIRED, BUT WILL NOT BE PUBLISHED EXCEPT WHEN PERMISSION IS GIVEN. THOSE DESIRING TO COMMUNICATE PRIVATELY WITH ANY CORRESPONDENT WHOSE FULL NAME IS NOT GIVEN CAN DO SO BY ADDRESSING LETTERS CARE OF CLAY-WORKER.

#### It Pays to Advertise.

Editor The Clay-Worker:

Please withdraw our For Sale ad for the four represses. This advertisement surely paid us, as we were able to sell the machines without any delay.

Yours truly,

F. G. MATTESON, President,  
Purinton Paving Brick Co.

#### Change of Name a Matter of Convenience.

Editor The Clay-Worker:

We wish to advise our patrons and friends that on January 1, we will change our firm name from George H. Clippert and Bro. Brick Co., to Clippert Brick Company. This action is taken as a matter of convenience and in no way affects our present organization, its personnel, or policies, which will remain the same as heretofore.

We bespeak the continuance of your patronage and good will, and voice our keen appreciation of past favors.

Yours very truly,

GEORGE H. CLIPPERT & BRO. BRICK CO.,  
George H. Clippert, President.

Detroit, Mich.

#### To Build a New Plant at Petersburg, W. Va.

Editor The Clay-Worker:

Enclosed find my renewal subscription to The Clay-Worker. I am just back home after having spent the season running the brick plant of the Grant County Bank at Petersburg, W. Va. They will build a new plant at that place starting early the coming year. I will have charge of the construction of the plant. They have a fine material there for making first class brick. We burned with wood this last year, but when we get the new plant in operation, we will burn with coal, as they will build permanent kilns, and coal will be cheaper.

J. H. WHEELER.

Cumberland, Md.

#### Florida Man Wants Prices on Brick Machinery.

Editor The Clay-Worker:

Would you kindly advise me concerning the approximate cost of a thirty-thousand capacity stiff mud face brick plant, such as would be suitable to this country and climate. We would dry in the air, but will require stiff mud machine, dry pan, elevator and screens, round down draft kilns. Would like to get in touch with manufacturers who could give us prices and plans.

W. E. LINTON.

Tampa, Fla.

#### Who Wants to Go to China?

Editor The Clay-Worker:

I wonder if you could recommend to us a man capable of directing the burning of brick and tile with a Hoffman

kiln and who at the same time could act as general manager of such a company. I would want a man with good common sense and high character. Would much prefer one of a strong Christian character. I do not know what salary such a man would receive in the states and while we are not prepared to pay anything handsome we would be ready to make it worth the man's while to come out here for this work. I would be glad to know from you what salary such men command there. Appreciating your assistance in this matter and enclosing stamped envelope for reply, I am,

Yours truly,

THE SOOCHOW BRICK & TILE CO.,

Soochow, China.

John A. Snell, President.

#### Small Clay Plants Are Best.

Editor The Clay-Worker:

In building clay plants for the manufacture of face brick, paving brick, hollowware, drain tile and fireproofing the daily output should be small, say forty thousand face brick, twenty-five thousand paving brick and one hundred tons of drain tile, hollowware or fireproofing as the maximum.

In plants of the sizes mentioned the machinery would all be of small size units and the setting of it would be compact in small inexpensive buildings. The drying units and the kilns would also be of small units and much more economically managed than in large units.

Small plants can be managed by one man who would act as superintendent, foreman and head of all departments. Overhead expense is thus reduced to the very minimum. The manager comes to know each workman more intimately and by reason of this fact each workman becomes more efficient in his position.

Now this seems like small business but it is not meant to limit one company to owning just one plant as one company may own any number of plants and the operation as a whole would be big business in the matter of selling and distributing the products. The small plants may be built at one location or they may be widely separated to suit the convenience of distribution of the product and moreover all the plants owned by one company need not make the same product in each plant but make a variety of products in the several plants. The plea is for the small unit plant in order to make the investment surer and safer.

This conclusion has been reached after more than thirty years' experience and observation in the clay industry.

S. P. ADVOCATE.

#### Kentucky Claymen to Meet in Louisville.

Editor The Clay-Worker:

It has been decided that it is advisable for us to hold the annual meeting of the Kentucky Clay Products Association at the Louisville Old Inn, beginning at 10 a. m. Tuesday, January 24, 1922.

The annual convention of the National Brick Manufacturers' Association is scheduled for Indianapolis the week of January 23-28 and the object in holding our annual on January 24 is so that those who desire may also attend the convention in Indianapolis. We should be able to get through our session in a day and go as a party in the afternoon or evening to Indianapolis and be there in time for the opening session of the N. B. M. A. convention. Please keep the date in mind and meantime advise us if there is some specific subject you want taken up for discussion at our meeting.

F. C. KLUTEY,

President.

J. CROW TAYLOR,

Secretary.



## GIVING THOUGHT TO FIRE INSURANCE.

No. 3.

By John B. Morton, President National Board of Fire Underwriters, New York.

**R**ATE MAKING in fire insurance is based on the expectation, first, that most fires will be extinguished near the point of origin, (thus producing what we term "partial losses," or losses less than the insurance), and second that all property will be insured for a fair proportion of its value.

Eighty per cent insurance to value, for instance, fairly meets everyday conditions. Furthermore, on an 80 per cent basis the owner has a personal interest of 20 per cent in his property's safety. This does not mean that he must carry 20 per cent of his own liability, for we will give him a still lower premium rate if he fills up the gap between 80 per cent and 100 per cent, but in consideration of a premium rate based on 80 per cent insurance, we do insist upon his contracting to take out policies for that agreed percentage of his values—or stand in the place of the insurance he does not provide. This is usually called "co-insurance," its technical name being "Reduced Rate Average Contribution Agreement," because if an owner carries less fire insurance than the average necessary to prevent rate discrimination between insurants, he must share his own loss so as not to unbalance the experience (results) in his class.

Without an understanding of fire underwriting fundamentals, a man may reason this way: "I have a well built property worth about \$100,000 in a good neighborhood, under good fire protection and not likely to burn, (all of which was taken into consideration, by the way, in his schedule rate), so I will insure for \$5,000 which will cover my probable loss."

He has reckoned without his host, because we cannot issue our policies on that basis. With only \$5,000 fire insurance (without the "co-insurance" agreement, a \$5,000 fire would mean to him a property loss of only 5 per cent but to us an insurance loss of 100 per cent.

On the basis of the premium rate produced by schedule, he should have carried \$80,000 insurance and paid the requisite premium therefor. Then a \$5,000 fire loss would turn that "total" insurance loss into a "partial" loss. We rated that man's property on a basis as 100 is to 80 (5 to 4) and he wants us to assume a liability—at the same rate of premium—as 100 is to 5 (20 to 1). That would be a gamble pure and simple, and fire underwriting is not a gamble but a calculation based on the law of average when spread over many thousands of separated properties and a period of years. We could secure no average on the basis he proposes except at prohibitive rates.

Above all, "co-insurance" prevents rate discriminations—a cardinal principle. Were some men to carry only \$5,000 and others \$80,000 at the same rate of premium on practically identical risks, equal in value, it would result in unbalancing the whole "experience" on that class of risks by reducing the premiums and increasing the losses. This would be gross discrimination against and at once establish unfair rates for the prudent man who for his own protection provides the \$80,000 fire insurance. That is why the man who will not pay the premiums to meet the requirement of 80 per cent fire insurance to property value, must pay the penalty at the other end in a reduction in the amount he may collect when loss comes.

If you believe that "a system of fire insurance rating which does not discriminate between safe construction and unsafe construction, and between carefulness and negligence, is an injury to the community," (as one of the students of our busi-

ness wrote many years ago when advocating schedule rating), we can demonstrate to you the fairness and the reasonableness and the desirability of fire insurance as today sold by the stock companies that are co-ordinated (not combined) to make your security greater, to make your property safer, to prevent your neighbor from damaging you, to make your community better, to make your life and the lives of your neighbors and of all other citizens safer, to make your city cleaner and healthier and more habitable and to help you solve your housing problems in saving your property from destruction by preventable fires and in paying honest losses promptly so that your destroyed houses may be rebuilt without needless delay.

This is a rather large order, but after all it represents an everyday function of stock fire insurance, in addition to indemnification for losses, though the underlying service functions so unobtrusively that the uninformed do not see it.

Stock fire insurance companies stand behind the business credit of the nation. Of all the insurance carriers their standard of solvency is the highest; their supervision the most rigid; their taxes paid to the State the largest, and their contracts the safest and the best.

## PRELIMINARY ANNOUNCEMENT.

Third Annual Convention, Common Brick Manufacturers' Association of America, January 31, February 1 and 2, St. Louis, Mo.

**W**HAT IS EXPECTED to be the largest exclusive meeting of common brick manufacturers ever held in the country will assemble at Hotel Statler, St. Louis, on Monday, January 30th. This is the opening date of the annual convention of the Common Brick Manufacturers' Association of America. For three days, concluding on February 1st, the time will be devoted entirely to the discussion of problems of educational interest to the common brick man.

It is well known that the C. B. M. of A. deals entirely with the commercial side of the the business. Its effort is to help merchandise brick, a feature that has been sadly neglected in the past. Brick manufacturers throughout the country, whether members of the C. B. M. A. or not, will be interested in learning how \$300,000 has been spent during the past two years in their interest. They will hear at St. Louis also plans for the future of the organization, including one new important activity, the nature of which will not be revealed until the time of the convention. This new plan has to do with one of the most vital and fundamental elements of building construction, and one in which the brick industry has been greatly handicapped. The success of this new enterprise depends upon a full consideration and discussion at the St. Louis meeting, and every brick man will find it to his advantage to be present at that time.

One of the features of the St. Louis meeting will be an extensive and interesting display of advertising matter, both national and local. There will also be a display of many photographs of buildings of all types erected during the past year with Ideal walls. This development in the brick business, inaugurated at the New York Convention, a year ago, has exceeded the most enthusiastic expectations of those who promoted it. Ideal walls have resulted in giving to many plants throughout the country all the business that they could take care of in spite of the general depression. It has not failed any manufacturer who energetically used the material which the Association gave him for advertising this new and most economical construction.

The first session of the Convention will be held at 2 p. m. on Monday, January 30. There will be several speakers of



national prominence and at the informal dinner on Tuesday evening, January 31, those present will have the opportunity of hearing one of the foremost men of America, a man who is mentioned on the first page of the newspapers almost every day. This man is in such demand as a speaker that he has requested that his name should not be mentioned until a few days preceding our meeting.

The whole Convention is planned to not only entertain the brick men, but to give him the greatest possible help in the improvement of his market. Many of the leading machinery manufacturers will be present and have display rooms adjoining the convention hall.

Manufacturers are urged to bring their families and some special entertainment will be provided for the ladies.

Reduced rates have been secured on all railroads, on account of this meeting, upon the certificate plan. Every brick manufacturer is cordially invited to attend the common brick meeting at St. Louis.

RALPH P. STODDARD, Secretary.  
Cleveland, Ohio.

#### ELECTRICITY FOR PARKER-RUSSELL CLAY MINE.

The Missouri Utilities Company of this city has announced that it will soon enlarge the capacity of its electric light plant in this city by the installation of new boilers and generators and one reason for the enlargement is the fact that that company will furnish current to the Parker-Russell Mining & Manufacturing Company, of Wellsville, Mo., a small town a short distance from Mexico. The Parker-Russell Company is installing a new clay mine at Wellsville and will completely electrify it, according to news reports in Mexico newspapers, carrying the account of the enlargement of the Mexico plant.

#### NEW CLAY PLANT PROPOSED FOR MOBERLY, MO.

Edward Zimmerman and Charles W. Shafer, of St. Louis, who own a large clay plant in the Mound City, have been in Moberly, looking over some shale land, southwest of the city limits and adjoining the shale beds of the Moberly Paving Company. They have under consideration the manufacture of hollow building tile, drainage tile and brick. The tract of land that they inspected consists of 160 acres and the material found on the tract is favorable for the proposed industry, the men declare. They now have a plant in St. Louis that is running night and day. They expressed themselves as favorably impressed with the quality of the shale and the location of Moberly as a manufacturing center. They will return to this city soon to go into the matter in more detail.

#### ELECTRIFY BRICK AND TILE PLANT.

The next step in an extensive program of improvement at the plant of the Los Angeles Pressed Brick Company will be its complete electrification, according to an announcement made some time since by the heads of this company, the four factories of which are now working up to capacity to keep abreast of Southern California's tremendous building operations.

This plan has been in contemplation by the company for more than a year, but it could not be undertaken until the completion of improvements which include the installation of modern conveyor system for handling clays, the construction of a group of huge reinforced concrete clay bins and the erection of an overhead monorail for the quick and efficient handling of the clays from the conveyor to the bins. These improvements are being finished.

When the electrification of the plant is completed it will mean the introduction of methods designed to enlarge the

plant output of face and enamel brick, hollow tile and architectural terra cotta and greatly increase its efficiency. Electrically driven cars will transport the materials to and from the kilns, the machinery for brick-making will be started and stopped by electricity, the electric lighting installation throughout the plant will be doubled, and electric devices will be arranged to safeguard the workmen.

The complete improvement program being pushed through by the Los Angeles Pressed Brick Company will give it one of the finest face brick and tile manufacturing plants in the west. The bins which the company is now building are the largest clay containers in this section, having a capacity of more than 12,000 tons. They will enable the company not only to have a larger supply of clay always on hand, but will allow for the proper "aging" of the clay, a factor of great importance in the manufacturing of clay products.

#### ANNUAL MEETING OF THE NATIONAL PAVING BRICK MANUFACTURERS' ASSOCIATION.

NEARLY ONE HUNDRED members of the N. P. B. M. A. gathered at the William Penn Hotel, Pittsburgh, December 6th, for an annual joint conference. An interesting program was put over in fine style and there were several incident not on the program that caused much pleasure to those who participated. O. W. Renkert, president, presided, and Secretary Greenough gave attention to the incidental preliminaries with his usual grace which marks him a 100 per cent secretary. Aided and abetted by "Daddy" Blair and the other members of the official family, the occasion was most enjoyable. Interesting addresses were made by Prof. A. V. Bleininger and R. C. Purdy on the "Heavy Clay Products Research and Its Relation to Paving Brick Manufacture." E. J. Mehren, editor "Engineering News Record," spoke entertainingly on "The Engineering Point of View Toward the Trade Association." Following the noon-day luncheon, the members were favored with an instructive address by E. W. McCullough, manager fabricated production department, U. S. Chamber of Commerce, on "What Trade Associations Are Doing for Their Members," after which those in attendance made a side trip of inspection of Allegheny County and Pittsburgh paving and other engineering projects. The informal dinner was a very happy event. Jollity that can only come from long acquaintance and friendly relations, prevailed during the dinner service, after which ex-senator George W. Cartwright of California made an address that was most remarkable in the facts presented and the happy illustrations with which the speaker emphasized his argument, which might well have been entitled, "The Fate of the Unfit."

One of the important undertakings of the conference was to standardize paving brick with a view of eliminating unnecessary shapes and odd sizes of paving brick. A permanent committee was created to be known as the Committee on Simplification of Variety and Standards for Vitrified Paving Brick, to co-operate with the Department of Commerce; other societies and associations co-operating. The committee reported as follows: "The number of standard varieties would be eleven, and the number of sizes four, the sizes being stated according to trade and manufacturers' custom;  $3\frac{1}{2} \times 3 \times 8\frac{1}{2}$  in.,  $3 \times 4 \times 8\frac{1}{2}$  in.,  $3\frac{1}{2} \times 3\frac{1}{2} \times 8\frac{1}{2}$  in., and  $3\frac{1}{2} \times 3 \times 8\frac{1}{2}$  in. The committee believes that further reduction of varieties is desirable, but that this should follow after further study and after the idea of standardization in paving brick sizes has become well impressed on the paving field. To go too far at the start is likely to arouse such strenuous opposition as to defer for a protracted time the good results which are desirable from this conference."



## NEW DRAG LINE EXCAVATOR.

OF RECENT YEARS there has been an urgent demand for a more satisfactory, and at the same time, a less expensive machine for digging and loading clay. To meet this demand the J. C. Steele & Co., of Statesville, N. C., have for two years past been operating a drag line excavator of their own design and which has stood the test in a gratifying manner. The machine is designed for digging clay and loading on cars without the necessity of having machine or clay cars in the pit. This important improvement is perfectly accomplished as the steel excavator and the clay cars are always on top of ground.

The new steel drag line excavator is particularly adapted for wet clay holes, where water backs up, (in places where steam shovel would be almost impossible), for obvious reason that both machine and cars are always above surface level. Another very important feature is, the machine, unlike a steam shovel, will dig with an uneven bottom in pit; will dig forty feet deep, or step over a hand bar or rock, taking all the clay and leaving material not wanted.

from the place excavated, as the place excavated is from sixty to seventy feet in width, and twenty-five feet in direction of machine, the moving of machine and of the car track is done at much longer intervals.

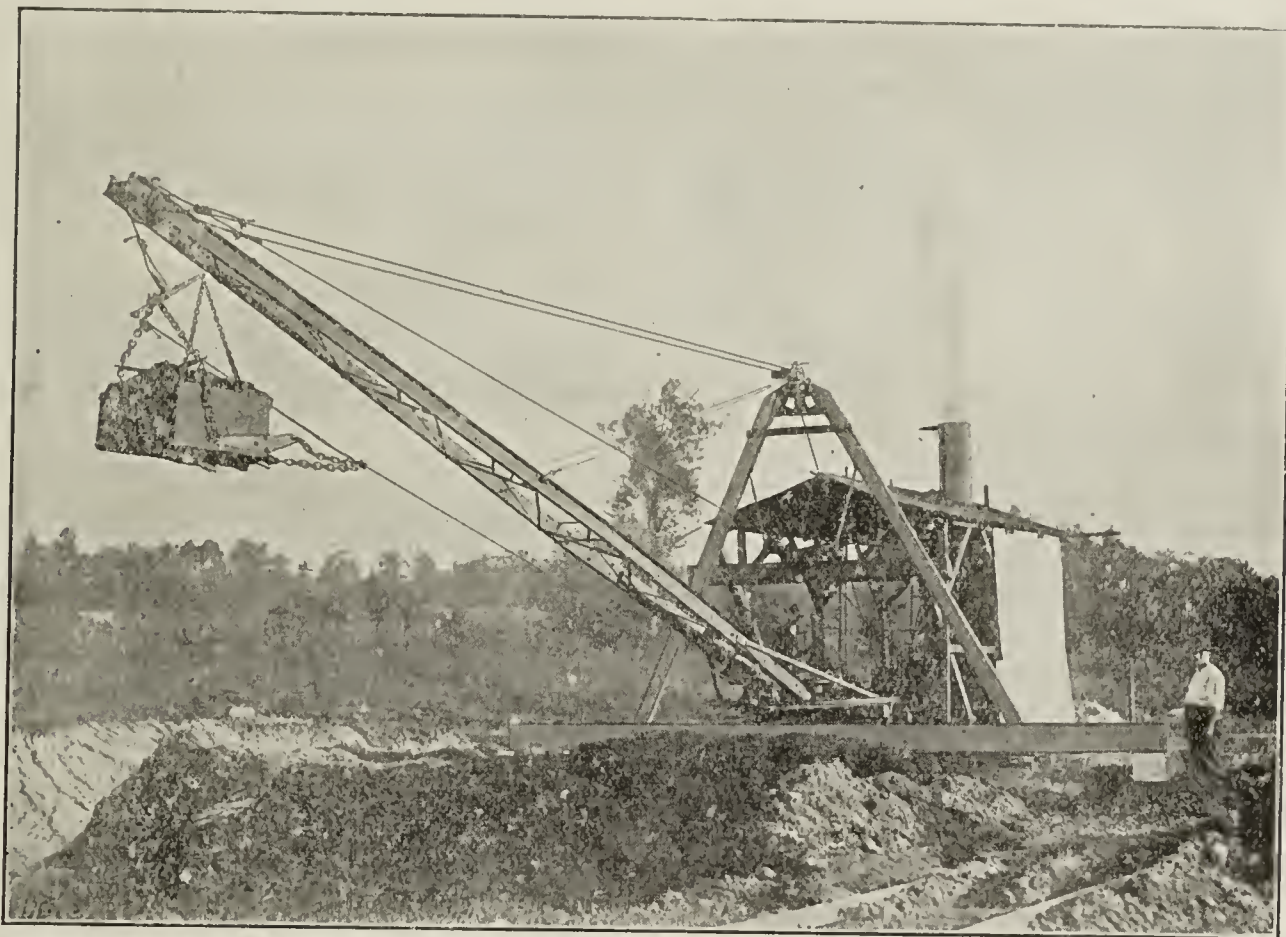
If the clay is extremely hard and dry, it is sometimes advisable to use a special plow to break up the clay. The bucket is easily swung aside and the plow hooked on in the same manner as bucket, when plowing can be done, and usually without loss of time, while the car is gone.

This machine has been perfected, having been in continuous use for two years, is very economical to operate, extremely substantial and reliable. It requires only one man to operate, except where loading continuously.

It is made in  $\frac{5}{8}$ -yd. and 1 yd. size. For further particulars write J. C. Steele & Sons, whose ad will be found on page 522.

### ROTARIANS ENTERTAINED AT BRICK PLANT.

A. P. Green, president of the A. P. Green Fire Brick Company, Mexico, Mo., pulled off a novel stunt the other day, when he entertained the members of the Rotary Club of



New Drag Line Excavator.

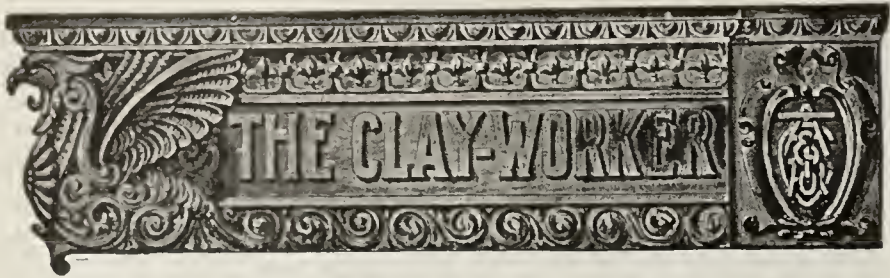
By observing the picture, it will be noted that the lifting cable passes over the top end of boom to bucket, while the pulling cable runs direct to bucket. By relieving brake on lifting drum of engine, the bucket is allowed to drop to ground, or even thrown back beyond the line of end of boom, then pulled in toward machine until fully loaded, then lifted to end of boom, a slight tension being kept in the pulling cable to keep bucket from tipping. The swinging rigging is then brought into play, and the boom, with the bucket, is swung around to right angle and immediately over the car, when the tension is slacked on the pulling cable and the bucket dumps to vertical position.

When the clay is all removed from the space covered in one setting, the machine is easily and quickly skidded on cross timbers, thrown on ground, to a new position. The machine rests on these timbers while working. The moving is accomplished by means of tackle block with dead man, and the use of winch head on engine. It always moves in direction

Mexico, and their wives at a dinner dance in the club rooms of the brick plant. The dinner and the dance was distinctly a company affair for the music was furnished by the negro musicians who are employed at the plant and the dinner was cooked in the kitchen and dining room of the plant, young men and women of the office force serving the meal. The guests were given souvenir programs and favors, which were paper weights made from fire clay and showing the insignia of the Rotary Club and the date of the banquet. About eighty persons were present, including a number of specially invited guests. The toastmaster at the banquet was Mitchell White, editor of the Mexico Daily Ledger.

If the producer gas plan of burning will produce brick at a lower fuel cost than using coal straight, this is a year in which the idea should prove especially attractive, for at this writing coal prices are still very high.





Entered at the Indianapolis postoffice as second-class matter.

A Practical Illustrated Monthly Magazine, devoted to Brickmaking and allied Clayworking Arts and Industries.

Title registered, contents copyrighted.  
THIRTY-EIGHTH YEAR OF PUBLICATION.

OFFICIAL ORGAN OF THE NATIONAL BRICK MANUFACTURERS' ASSOCIATION OF THE UNITED STATES OF AMERICA.

TERMS OF SUBSCRIPTION:

|                                             |         |
|---------------------------------------------|---------|
| One copy, one year (in advance)             | \$ 2.00 |
| One copy, one year (if not paid in advance) | 2.50    |
| Six copies, " " " " " "                     | 10.00   |
| Ten copies, " " " " " "                     | 15.00   |

Foreign subscriptions 65 cents additional.

Subscribers when ordering a change of address should give both the old and new address.

ADVERTISING RATES

Furnished on application. The CLAY-WORKER is unquestionably the most effective medium in its field, and character and circulation considered it is the cheapest. To insure insertion in current issue, advertising matter should be sent to office of publication on, or before the first of the month.

Correspondence on all subjects of interest to Clayworkers solicited. All communications should be addressed to  
211 Hudson St. T. A. RANDALL & CO. [Inc.], Indianapolis

Vol. 76. December, 1921. No. 6.

CURRENT COMMENT.

Here's wishing you a prosperous 1922.

\* \* \*

Most of us will be glad to turn down the page 1921 and start with a new leaf.

\* \* \*

Let us resolve that during the new year we will not merely be good, but will be good for something.

\* \* \*

The new year holds out great promise for building operations. Let us make that promise good. Build with Brick.

\* \* \*

If you haven't got a membership in the N. B. M. A. it is time to take on one as a part of your paying investments in the clayworking industry.

\* \* \*

Varying the process of laying brick to break the monotony of plain wall, soldier courses offers great possibilities for architectural improvement.

\* \* \*

While all this disarmament thing is in the air let us disarm business from enmity and suspicion that we may all do better business and feel better toward each other.

\* \* \*

One trouble with some of this talk about the highway to prosperity is in the "high" part. People are looking for something lower these days, especially lower costs in building operations.

\* \* \*

The scientific folks of the movie world are now venturing the possibility of films that talk as well as show movements. If they repeat the talk of the directors and actors like a

dictaphone report the movie censors have some hectic times ahead of them.

\* \* \*

To get the full share of brick building next summer we must keep the kiln fires burning this winter.

\* \* \*

For industry to thrive it must have freedom not only from governmental meddling, but also from strikes and lockouts.

\* \* \*

Let us take with us into the new year a realization that success depends more upon the backbone than upon the wishbone.

\* \* \*

The new tax law is now available in printed form, and it is one bit of literature that no one wants to read, but many will have to.

\* \* \*

The use of brick in home building has a natural growth measured by the passing of our forests, but we may speed up that growth by some diligent cultivation.

\* \* \*

Speaking of his Muscle Shoals project, it is said that Mr. Ford does not care to make a profit out of it. Maybe he doesn't but he generally does make a profit just the same.

\* \* \*

We have reached the period of thrift in the cycle of business affairs and current reports show a great volume of savings accounts which speak well for the prosperity of the near future.

\* \* \*

If you are seeking wide distribution of your clay products look in on the conventions of retail lumber dealers in your state and seek for a hook up with the local retailer in each community for pushing your products next summer.

\* \* \*

In the seeking to get brick prices on a lower basis we should find the way through lower costs of production and handling that the industry may thrive and profit while furnishing the best building material at the lowest price.

\* \* \*

Maybe progress in clayworking equipment does not move as rapidly as in some other industries but it does keep moving. Also it does pay to keep informed about the new things which make the movement. Attend the N. B. M. A. Convention.

\* \* \*

Babson, the big man of business statistics, says that there are twelve stages in the business cycle and that we are now in the 6th stage, that of doubling up in homes and of decline in realty prices. This is to be followed by thrift, easier money, greater efficiency and greater land values.

WHAT 1922 PROMISES.

There is a promise that 1922 will be a banner year in the brick and clayworking business and it will mark the beginning of a new era of bigger things in brick building and especially in the use of brick for home building.

Opinions may differ some as to what the new year will bring in the export trade and in various special industries, but there is pretty general agreement that 1922 should be one of the greatest years on record in the building industry and especially in home building. It is this which makes unusually favorable opportunities for brick, hollow tile, drain tile, sewer pipe and other clay products entering into structural material lines.

That there will be a lot of building seems to be assured. What percentage of this building is done with brick and hollow tile will depend some upon the activities in exploiting



these products, and some on the ability of the trade to supply the needs promptly at prices which will encourage their use in competition with other building material. On the whole 1922 promises great things. Let us turn to therefore and strive earnestly to make these promises good.

#### WORK THIS WINTER.

The clayworking industry should work this winter. Work earnestly, diligently and to produce as extensively as circumstances will permit. Those who carry on in this way will not only be able to furnish employment for those needing work, but they will be doing good for themselves by getting stocked up ready to supply the needs of the building trade next spring. There is a persistent effort now to put both the clayworking and the building industry on a steady working basis the year round, and it is a good idea to give this plan a thorough try out. The prospects for trade in the new year are such as to make a decidedly encouraging condition for steady work this winter.

#### "HAPPY NEW YEAR."

As we say "Happy New Year" this time let us do some thinking about it and strive to make it mean something more than just a passing greeting of the holidays. Let us resolve to do our little part toward making the year as a whole a really happy one. Let us give some thought to what it is that makes for happiness, what we should think and do with ourselves and in our relationship to others to attain for all the greatest measure of happiness. If we follow this thought diligently we will find it interesting and worth while. We will find that happiness is not merely a matter of personal indulgence, but is largely a matter of service to others and the attainment of worthy goals. Also we will find that happiness comes more readily through patience and tolerance toward others than through fretful intolerance, and more through co-operation than through antagonism. We know all these things if we but stop to think about them, therefore let us pause as we say "Happy New Year" this time and give thought to ways we may follow to make for a greater measure of happiness all around.

#### CONVENTION TALKS.

There are two kinds of convention talks which are good and which bring enlightenment to those attending conventions and taking part in them. One is made up of the formal speeches on the program and the public discussions following them, and the other is the buttonhole talks engaged in by people around the convention hall and the exhibits of machinery and appliances. And there is no reason why every man attending conventions should not get a fair measure of good out of both these.

There is plenty of time between convention sessions for the informal and individual talks, and it will make the public talks and formal papers more interesting and valuable if every one will strive to be in attendance at the convention sessions and take an active part in the proceedings, and especially in the discussion of questions raised on the convention floor.

Then, after doing one's duty by the public discussions in convention sessions, there should be a special effort to get both information and a wider acquaintance through buttonhole talks and personal conversations, which make a big feature of all the convention gatherings. And a good way to start them forth is to come with specific questions in your mind, things you want to talk about and hope to obtain

information on. The chances are that somewhere around the convention you can find someone who can make an answer to any question troubling you. And it is by asking questions and mixing in that you may get the greatest measure of good out of convention sessions and the buttonhole talks which are an important feature thereof.

#### POWER PLANTS.

Odd as it may seem there is an interesting connection between the new map of Massachusetts, Connecticut and Rhode Island, and the subject of industrial power plants which incidentally raises an interesting question of economy in power plants and whether or not the clayworking industry may turn extensively to buying outside power and using electric motors.

The map in mind is made specifically to show power stations and transmission lines of public service companies and it leads the thoughts to and comments directly on the super power zone in the eastern part of the country that is being surveyed and talked of.

The most important feature about the whole thing is that the figures show that the advice is given that for 500 horse power or less there is economy in buying power from central stations rather than making it in your own plant. These figures are based, however, purely upon relative fuel and upkeep cost, and do not take into consideration overhead costs, profits and other factors which enter into the buying and selling of central power current. It all shows, however, that there is a tendency toward electric transmission in all industries which the clayworking industry should perhaps be giving more attention to than it has been.

#### TWO TRENDS IN RESEARCH WORK.

While the main trend of research work in the clayworking industry always has been and will likely continue to be of a technical nature and constitute a delving into the realm of new things, there is another trend noticeable today that is interesting and worth while. That is the trend toward charting and standardizing established clayworking practices.

The new trend might be classed as a disposition to survey practices and results obtained in various clayworking plants with a view to obtaining more positive knowledge of everyday work and so charting this knowledge that it can be made available to everyone and will serve to take much of the individual mystery out of clayworking and put it on a more positive basis.

The clayworking of today, like the cooking of our grandmothers is too much a matter of individual local skill and understanding and is therefore too dependent upon certain individuals and the knowledge they have gained from the experience at one particular job, which though good has not been charted for the information of others. That is where the Division of Research is headed now toward putting burning and in the main all operations involving technical knowledge and skill on a more positive basis of knowledge so as to take the mystery out of the work and put more positiveness into it.

This is as it should be. It is well and proper for us to center most of our research efforts on new discoveries, but at the same time it will be wonderfully helpful to the industry to have a survey for checking up and charting clay plant practices for more and better information and more positive results in the future.

#### REFRACTORIES DIVISION BULLETIN.

The first bulletin of the Refractories Division of the American Ceramic Society has been issued through a collaboration of Secretary Purdy and A. F. Greaves-Walker, chairman. This bulletin is in the form of a bibliography listing for



reference literature on magnesite and dolomite refractories. The first bulletin shows careful and thoughtful arrangement as well as reflects a great amount of time and effort devoted to the checking up and listing of literature on magnesite and dolomite refractories. The co-operation of all members is asked in securing reference literature on refractories that these bulletins may be as nearly complete as possible. The next bulletin issued will deal with silica refractories and if you have any reference literature on this subject send copies to Secretary Purdy that it may be included in the listing.

#### THE BOOK OF SMILES.

**W**HEN YOU START to make your mark in the world, be sure you don't use a red pencil," remarks the current issue of the "Book of Smiles." This does not agree with our notion of the idea, for a red pencil makes a conspicuous mark, one that is not easily erased. Another rather trite story with which we wholly agree, appears under the head, "Nature Is Wonderful."

John Dougall, manager of the Columbia River Loggers' Association, says that nature is wonderful. Take the horse-fly. Its antics attracted the attention of two darkies one day as they were at work in camp. "Lawdy, niggah, waht am dat buzzin round mah haid?" asked one. "Dat am a hoss-fly." "Hoss-fly? Wa am dat?" "Why, de hoss-fly am a li'l fly wat buzzes 'round hosses, cows an' jackasses." "Look heah, niggah," snapped the first darky, "does yo' all mean t' 'sinuate dat Ahm a jackass?" "No sah, chile, Ah doan mean t' 'sinuate nuffin. But man, yo'all caint fool no hoss-fly."

And there are several equally amusing squibs for spice, which with the serious contents devoted to the merits of the Standard Steam Brick Dryer makes a most interesting little booklet, copy of which may be had on request of the Standard Dry Kiln Company, Indianapolis, see ad on page 540.

#### THE MECO KILN ACCELERATOR.

**U**NDER THE ABOVE title, the Manufacturers' Equipment Company, Dayton, O., offer the trade something new in the way of mechanical means for controlling the heat of kilns, ensuring more rapid and better fires with a decided saving in fuel cost. The device consists of an exhaust fan mounted on a carriage in combination with a kerosene or gasoline engine or electric motor to suit the power conditions of the plant where used. When a kiln has cooled sufficiently to permit the removal of the door casing, the fan is attached and operated as a blower, forcing the heat out, and when the heat of the kiln has been reduced to 500° F. or less, the position of the fan can be changed and the suction pipe attached to the door casing. The fan is then operating as an exhauster, causing cold air to rush in at the door and other openings, carrying the heat away from the ware, and producing a comfortable condition for unloading the ware, which would otherwise be prevented by the heat of the kiln. Through such usage, kilns may be cooled and emptied in from two to three or even four days in advance of the time otherwise required through the process of natural cooling. For illustrated leaflet or further particulars, address the Manufacturers' Equipment Company, whose regular ad appears on page 597 of this issue.

#### "QUIT YOUR KNOCKING."

Put your hammer in the locker;  
Hide your sounding board likewise.  
Anyone can be a knocker;  
Anyone can criticize.  
Cultivate a manner winning  
Though it hurts your face to smile  
And seems awkward in beginning—  
Be a booster for a while.

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##### FOR SALE.

One 96-inch induction fan, complete with steel housing. \$250.00 f. o. b. Galesburg, Ill.

##### THE PURINGTON

##### PAVING BRICK CO.,

12 1 d

Galesburg, Ill.

##### FOR SALE.

Brick plant, Pittsburgh district. Good market; splendid location; good shipping facilities. A bargain at \$18,000. A. B. McCLELLAND, P. O. Box 288, McKeesport, Pa.

12 1 c.

##### FOR SALE.

One Raymond Victor Repress, used very little, in excellent condition. One Raymond 777 auger machine, 40,000 to 50,000 capacity, including new repairs. Address

11 tf d.

##### REPRESS,

Care Clay-Worker.

##### FOR SALE.

In good condition two 13-foot exhaust fans for brick housing, direct connected to 13 x 16 engines. \$1,000.00 each f. o. b. cars, Galesburg, Ill.

##### THE PURINGTON

##### PAVING BRICK CO.,

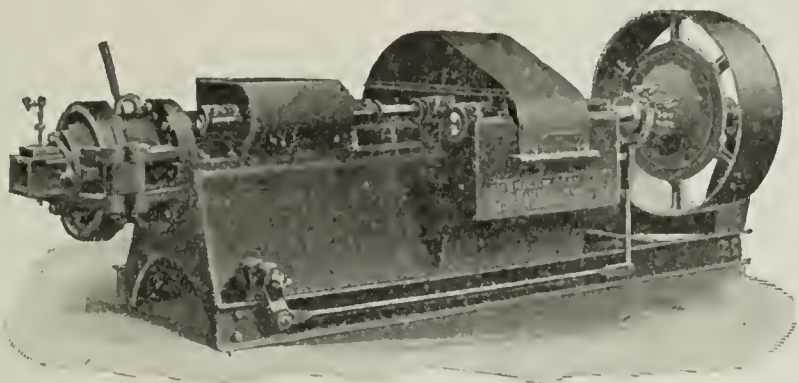
12 1 d

Galesburg, Ill.



*The HADFIELD-  
BUCYRUS*  *PENFIELD STEEL CO.*  
OHIO, U.S.A.

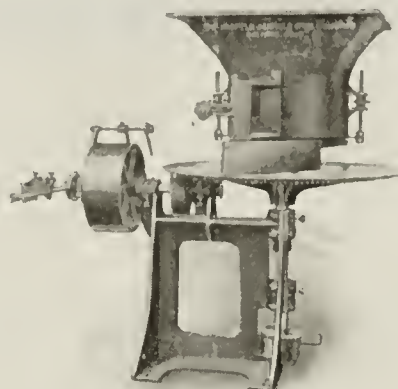
THE AMERICAN NO. 290 AUGER MACHINE.



Massive, Strong, Efficient. It is designed and built for satisfactory service. Large capacity. Get specification Sheet.

THE HADFIELD-PENFIELD STEEL CO., BUCYRUS, OHIO.  
Formerly the American Clay Machinery Co.

AMERICAN NO. 339 DISC FEEDER



This Disc Feeder will insure a perfectly even flow of clay to the pug mill.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

AMERICAN NO. 539 CRUSHER



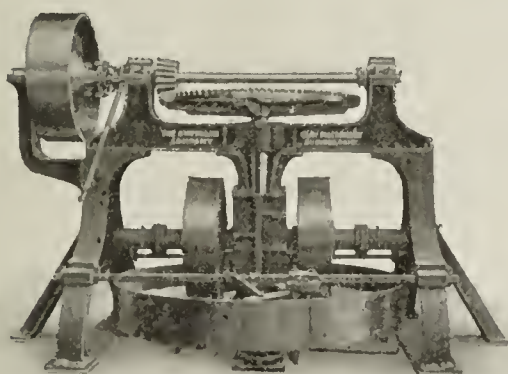
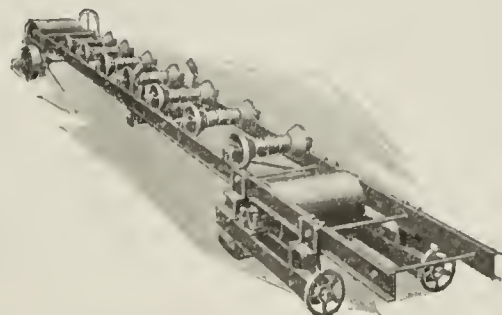
This crusher is backed by a quality which will guarantee performance. A circular describing and illustrating it will be sent on request.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

AMERICAN STYLE "A" CONVEYOR

A structural steel conveyor. Supplied in widths from 18 to 24 inches. Conical wood rolls run in dust proof bearings. Adjustable spider pulleys. No clogging clay. Get price. Give length and width desired.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.



"BUILT RIGHT, RUN RIGHT"  
AMERICAN DRY PAN

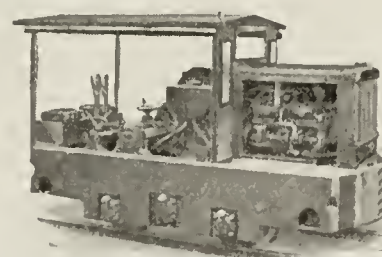
American Dry Pans are noted for quality and capacity. Let us tell you the whole story. Get specification sheets.

THE HADFIELD-PENFIELD STEEL CO.  
Bucyrus, Ohio.

"BUILT RIGHT, RUN RIGHT"

AMERICAN GASOLINE LOCOMOTIVE

Cheap, reliable haulage for clay pit and plant.



THE HADFIELD-PENFIELD STEEL CO.,  
Bucyrus, Ohio.

THE HAIGH KILN.

The Haigh Kiln Saves Half the Coal, Saves Half the Labor.



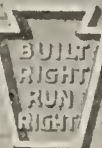
THE HADFIELD-PENFIELD STEEL CO.,  
Bucyrus, Ohio.



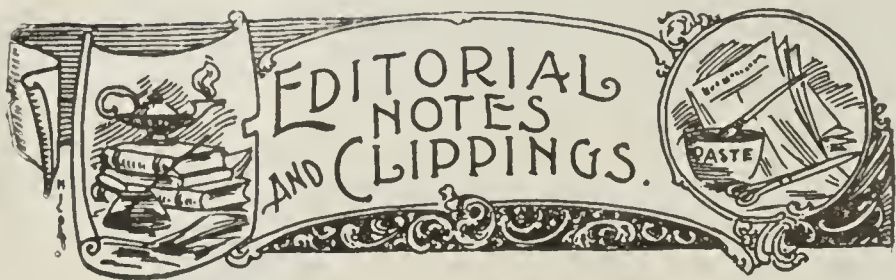
American No. 304 Pug Mill

Here's a mill that is light on power. Is built heavy for big capacity and thorough pugging. Get our pug mill circular.

THE HADFIELD-PENFIELD STEEL CO.  
Formerly  
The American Clay Mchy. Co.,  
Bucyrus, Ohio.

*The HADFIELD-  
BUCYRUS*  *PENFIELD STEEL CO.*  
OHIO, U.S.A.





J. P. Morris has purchased the plant of the Brinkley Brick & Tile Company at Coleman, Texas.

George A. Raney, Lawrenceville, Va., writes he has had a good year and is going to increase his capacity for next year.

The American Brick & Tile Company of River Rouge, Mich., has been organized and will erect a plant for the manufacture of pressed brick and tile.

The La Salle Pressed Brick Company, La Salle, Ill., of which Mr. Steinmayer is president, state they have had good business recently, and are now shipping an order for 250,000 face brick to Minnesota.

The Gadsden (Ala.) Clay Products Co., of which Gordon Hood is secretary-treasurer-manager, is erecting three oblong down draft kilns, installing waste heat dryer. The plant when completed will have a daily capacity of 35,000 brick.

The Corbin Brick Company of Corbin, Ky., has increased its capital stock from \$50,000 to \$100,000, and will install a four tunnel dryer and two 32 foot round kilns, and otherwise improve the equipment to bring the daily output up to 30,000 brick.

The Robinson Clay Products Company, Akron, Ohio, is expected to operate at a comparatively high rate during the early part of the winter because stocks are at their lowest point in many years and the inventory will be built up for spring business.

J. E. P. Blumer writes that together with J. L. Morris he has taken over the plant of the Florida Brick Company at Brooksville, Fla., and will be glad to have catalogues and prices of brick machinery as they contemplate making a number of improvements.

The K. W. Brick Company of Warren, Ohio, has just been incorporated with \$150,000. The company will manufacture brick, tiling, coping and hollow block. John W. Whittaker is president, Francis J. Kramer of Niles, vice-president, and G. B. Dilley of Youngstown, secretary-treasurer.

The work on the American Clay Products Co., at New Hope, Pa., is being pushed to completion as rapidly as possible. They are now putting in the railroad tracks and switches. Work will be continued all winter with the expectation of having the plant ready for operation early the coming spring.

After several weeks' suspension for overhauling and general repairs, the Alphons-Custodis Chimney Construction Company has resumed operation of its brick plant at Ragsdale, Ala., and will soon be going on full time. For several years this plant has been turning out a remarkably fine vitrified brick, as well as its hollow tile and general building brick, a liberal stock of which has been kept on hand at all times.

Mr. N. B. Kendrick, proprietor and general manager of the Kendrick Brick and Tile Company, of Mount Holly, near Charlotte, N. C., has no complaint about business conditions. He is running full time and is selling brick as fast as he can turn them out. Just now he is figuring on increasing the capacity of his plant and will commence work at once. He plans to install the largest brick machinery made by J. C. Steele and Sons, of Statesville, also dryers, etc., and the added facilities will increase his output 25,000 a day. This will give him a capacity of over 100,000 brick a day.

The plant of the Muskogee (Okla.) Vitrified Brick Company was almost wholly destroyed by fire in November, the loss being estimated at \$50,000. Most of the loss was covered by insurance. It is believed a hot bearing near the roof of the main structure caused the fire. Floyd S. Nicholson, manager, hopes to push the rebuilding of the plant to such an extent that they will be ready for operation again by the first of March. The company has more than half a million brick on hand at Muskogee, and the plant at Kusa will be

run to capacity, and in this way the company will probably be able to take care of all orders.

The Anthracite Brick & Tile Corporation has been incorporated at Wilmington, Del., with \$250,000.

George Waugh, retired brick manufacturer of Verplank, N. Y., died at his home there recently. He was seventy years old.

The Anderson Brick & Supply Company of Manhattan, New York City, has been incorporated. L. C. Anderson, S. P. Fields, A. T. Helfer and A. R. Bunnell, are interested.

Many of the Illinois clayworking plants are operating to capacity, but complaint is heard from the manufacturers of fireproofing and block of the low figures obtainable for the ware due to price cutting.

The Beaver Tile & Specialty Company, 442 West 42nd street, New York, have increased their capital stock from \$45,000 to \$200,000. The transaction was made through the president, George B. Staples.

The Chamber of Commerce of Hartshorne, Okla., is interested in the establishment of a brick and roofing tile plant at that place, with a capacity of 60,000 brick and 20,000 roofing tile per day. I. Hinton, N. E. Tuell, O. S. Wingate and others are interested.

The Duffey Brick Company, Mechanicsville, N. Y., have filed plans to rebuild a portion of their plant destroyed by fire. The new building will be of brick and steel construction and one of the most modern and best equipped brick plants in the state.

The plant of the Joseph Soisson Fire Brick Company at South Connellsville, Pa., which has been closed since in August, has again been put into operation on receipt of orders for building brick. The company has also resumed work at its plant at Bolivar which has been closed for a year.

The Builders' Brick Company, Chicago Heights, Ill., president, Mr. Frank C. Laver, are installing an electrically operated conveyor for taking brick from kiln to railroad car. While the machine, which is the invention of Mr. Laver, is yet in experimental stage, it is handling 100 brick per minute, and is expected to handle 150 per minute when completed.

H. Webster, the kiln builder, has recently completed one of his continuous down draft kilns at the plant of Alwine Brothers, New Oxford, Pa., which is giving splendid satisfaction. Mr. Webster and Mr. Alwine will both be at the National Convention at Indianapolis and will no doubt be more than pleased to tell any one interested about the kiln.

Akron Brick Exchange has been formed as a selling agency for four of the largest brick manufacturers at Akron, Ohio, under the direction of Mr. Walter Akers. In the agency are the Duro Brick Company, L. W. Camp Company, Windsor Brick Company and Colonial Brick Company, Mogadore. The industry is looking for better business next spring. During the past month more than 1,000,000 brick have been laid in the Akron district, which is approximately 30 per cent of normal.

More than \$20,000 in bonuses was given by the Mason City (Iowa) Brick & Tile Company to its employees the first of December. The amounts for each employee amounted to from \$60.00 to \$150.00, depending on the amount of production, efficiency and continual service on the part of the employee. B. C. Keeler, manager, states the company believes a man who gives continual service is entitled to a bonus, on the theory that he is worth much more to the company than the spasmodic worker. Each month the worker is given a deposit which draws four per cent interest until December 1, at which time the bonus is paid. The company has been paying a yearly bonus for five years.

L. A. Steiger, formerly manager of the Steiger Brick and Pottery Company of San Francisco, has purchased the holdings of the Vallejo Brick and Tile Company, located north of Bay Terrace. The price paid was around \$200,000. Steiger will incorporate the company for \$500,000 and expects to start the manufacture of brick and tile within 30 days. He has been successful in interesting masons and builders in his project and is assured of support following the production of brick. The old Vallejo Brick and Tile Company cost over half a million dollars. The plant failed and the title passed to the bondholders, from which it was purchased by Steiger.



The buildings and plant cover 18 acres and the property consists of 50 acres.

Harvey Payton, an employe of the Collingwood Brick Company, Toledo, fell into the pug mill and was so badly injured death followed soon after.

The Stamford Brick Works at Stamford, Texas, was damaged to the extent of \$3,000 by fire which occurred at the plant in November.

John F. Townsend, one of the pioneer clay men of Ohio, died in Washington, D. C., early this month. Interment took place at Akron. Mr. Townsend had been associated with the Robinson Clay Products Company for many years.

H. E. Buck Brick Manufacturing Company, of Lake Charles, La., announces the five year lease on their brick plant and material business which has been held for the past five years by Delatte and Lagrange, Inc., expires January 1, and at that time the Buck Company will resume operation of the plant.

A movement is on foot to establish a brick plant at Big Stone Gap, Va., where there is an unlimited supply of good shale. R. B. McGeekin, secretary of the Big Stone Gap Ad Club, can give any one interested full particulars as to advantages.

The Fort Smith (Ark.) Brick Company and the Southern Building Products Company have completed the consolidation of their sales departments for the handling of their business in Arkansas. F. D. Bates is sales manager and the Fort Smith office, to be known as the Sales Division, Fort Smith Brick Company, has been opened at 225 Louisiana street. B. J. Chamblin is in the office as representative of the Southern Building Products Company. In addition to the Fort Smith Company's line of face, paving and common brick, the organization will have all of the Southern Building Products Company's lines, including interlocking tile, western face brick and all the products of the Acme Brick Company, including the three Texas face and fire brick plants and the new \$270,000 face and fire brick plant at Perla, Ark.

Written for The Clay-Worker.

# DISTRICT OF COLUMBIA PLANTS RUNNING AT CAPACITY—NEAR FUTURE TRADE UNCERTAIN.



FEW WASHINGTON brick manufacturers are willing to go on record as predicting a rush of business for the early spring months, although all plants in this section are at this writing practically working up to capacity. One reason for this uncertainty is that building operations have not yet become as active as had been anticipated, and many large suburban residential operations are suspended awaiting more stable conditions. One of the contributing causes retarding building throughout this section is claimed by the brick producers to be high transportation rates on building materials of all kinds. No large shipments of these lines are being received here, shippers evidently holding back anticipating reduced freight rates.

John Miller & Co., prominent Washington brick manufacturers, report a number of good-size contracts on hand, with a fairly steady demand for the past four months. The firm predicts steady trade for the next sixty days or more. It has not had occasion to reduce prices in order to get business, and is quoting \$14 for salmon, \$17 for arch, \$18 for red and \$19 for all red.

West Bros. Brick Co., leading manufacturers in this section of common brick, are running practically at capacity, and expect to continue to do so for some time to come. The firm has had a steady trade since early in the fall and throughout the late summer. "I should not like to make a prediction as to late winter and spring business," said Mr. L. Perry West to "The Clay-Worker" representative. "There's a lot of uncertainty in the various building lines which are more or less related to the brick business, and which affects our product very directly. While the coming spring may see a largely increased demand for brick and building operations booming,

## Cement mill doubles clinker output

by increasing crushing capacity one-third and screening with Hum-mer *Electric* Screens

THE Castalia Portland Cement Co. formerly fed the product of their ball mills directly to tube mills.

Two years ago, by increasing their clinker crushing capacity one-third and screening the clinker with HUM-MER *Electric* Screens after it had gone through the preliminary crushers, they increased the volume of this process 100% and are now operating on a 12-hour basis instead of 24.

Furthermore, the HUM-MERS produced a finer and more uniform product for the tube mills with the result that the tube mills work 60 to 70% faster—and a higher quality of cement is produced.

Mr. Kirkpatrick, superintendent, states that the labor saved by eliminating the 12-hour night shift alone pays for the HUM-MER installation twice a year.

Send for detailed copy of  
Castalia Portland Cement Co. HUM-MER Report.



HUM-MER *Electric* SCREENS  
Castalia Portland Cement Co.  
Castalia, Ohio.

## THE W. S. TYLER COMPANY, Cleveland, O.

Manufacturers of Woven Wire Screens and Screening Equipment



I am inclined to be a little conservative in my predictions. As a matter of fact, there are so many influences of one kind or another which are factors in our business that it is hard to say just what is ahead. With a comparatively quick return to stable building conditions and normal operations with us again we will doubtless have a good year. Our own plants are going right ahead and will not slacken up until we see the danger sign."

Other brick manufacturers in this section are equally disreduction in freight rates, hoping it will enable them to get inclined to be quoted as predicting a rush of trade for late winter and spring, all taking a cautious and conservative attitude in this respect.

Only eleven varieties of vitrified paving brick will be made and considered as standard by the industry, as the result of the conference which has just been held here at the Department of Commerce. This conference—whose purpose was to effect simplification of variety and to standardize paving brick—is the first of a series of similar conferences which are to be held as the result of the report of the committee for the elimination of waste in industry of the American Engineering Council. A permanent committee, to be known as "the committee on the simplification of variety and standards for paving brick of the Department of Commerce," has been created to make further studies, and this committee has already agreed to eliminate 55 of the 66 varieties of vitrified paving brick. The following organizations are represented on this committee: National Paving Brick Manufacturers' Association, U. S. Bureau of Standards, U. S. Bureau of Public Roads, American Society of Civil Engineers, American Association of State Highway Officials, American Society for Municipal Improvements, American Engineering Council, American Society for Testing Materials, Fabrication Production Department of the United States Chamber of Commerce.

National Brick Co., for a number of years located in the Bond building, 1400 New York avenue, has removed to more spacious offices at 1402 I street, N. W. The company's plant is located at Terra Cotta, D. C., in the northern suburbs of Washington.

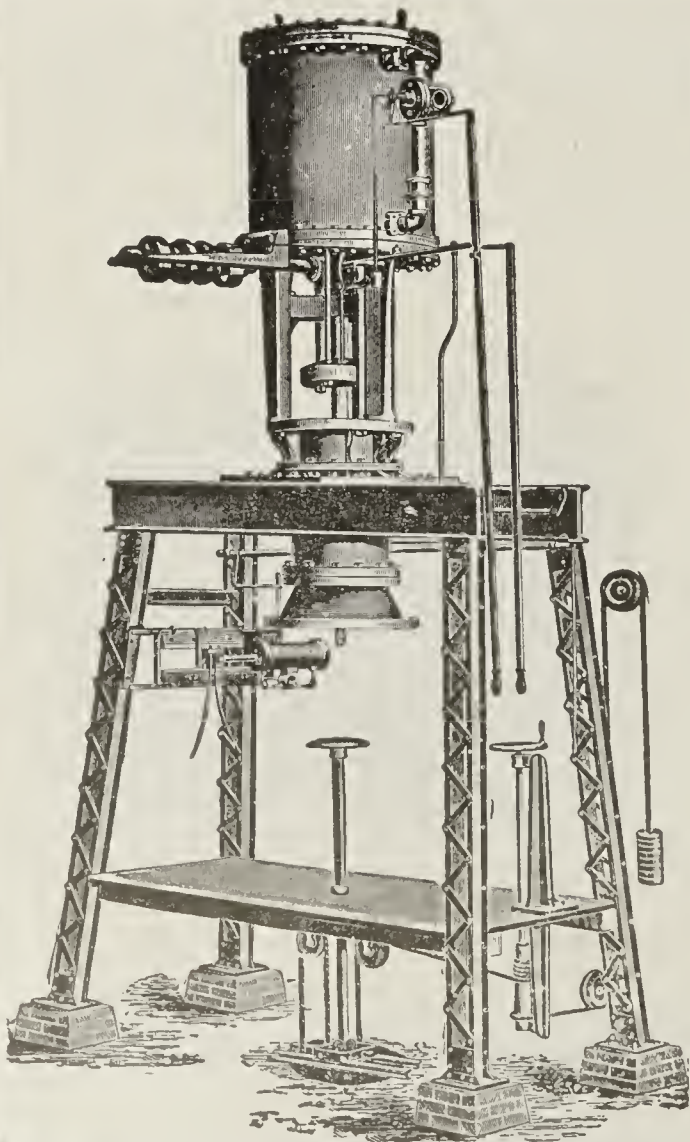
ALTHOMAR.

## TRADE NOTES.

The Continental Clay Products Co. and the United Clay Products Co., whose extensive brick manufacturing plants are located at Martinsburg, W. Va., have opened offices at Washington, D. C., in the Munsey building. The concerns manufacture rough texture and smooth face brick. A good trade throughout this section and in nearby states is reported by both companies.

Clay Craft Potteries, Inc., were recently granted a charter by the State of California. The company is incorporated for \$300,000 and is engaged in a general pottery business, their products including chemical stoneware, decorative tiles, garden pottery, and kindred vitreous products. They are located in Los Angeles and are erecting a modern plant, one unit of which is about completed. Plans provide for two batteries of four bisque kilns each, and four muffle gloss kilns. The plant is now on part production basis and filling orders to capacity. The officers of the company are Howard H. Carpenter, president; J. E. Carpenter, treasurer, and W. F. Yeo, secretary. The stock is being subscribed to by both Los Angeles and Glendale people. Mr. John A. Logan, cashier Glendale National Bank, is a stockholder and a director in the company.

A peculiar but very serious accident happened to Ed. Therian, steam shovel operator for the St. Anne Brick & Tile Company, St. Anne, Ill., recently. Mr. Therian was standing on the ground near his steam shovel and had a small shovel in his hand. A large piece of earth fell from the top of the bank, striking the shovel held by the man, and causing it to fly upwards. The blade struck Mr. Therian below his jaw, cutting into his throat and chin, broke the jaw in three places, knocked out many of his teeth and cutting through his chin. The force of the blow bent the shovel blade. Mr. Therian was rushed to Kankakee to the Emergency Hospital and was on the operating table one and a half hours. The services of a dentist were found necessary to remove exposed nerves and broken teeth. Doctors drilled and wired the jaw together and sewed the wounds in the flesh. Late reports are that Mr. Therian will recover.



# MAKE THINGS OF CLAY THE PIONEER WAY

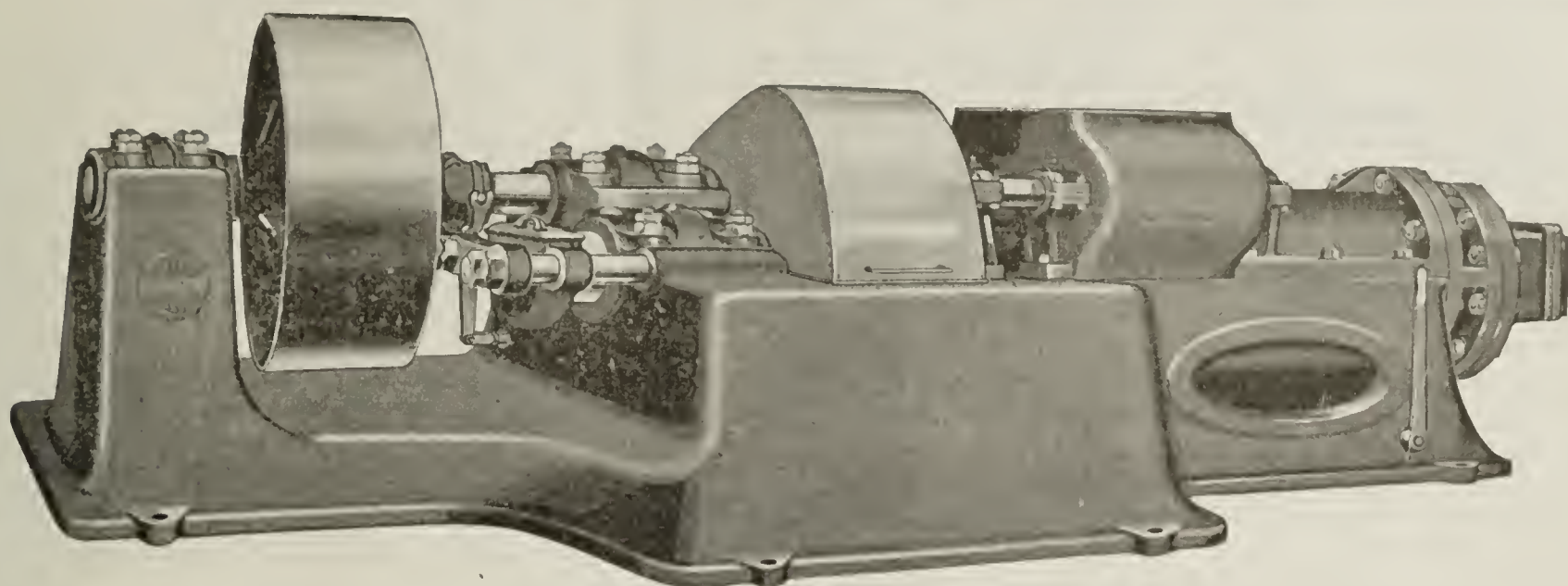
**MACHINERY WE MANUFACTURE:** Single and Double Acting Presses (4 sizes), Dry and Wet Pans (3 sizes), Clay Crushing Rolls (3 sizes), Gravity Elevators, Chaser Mills, Wad Mills, Clay-working Dies of every kind and description, Storage Feeders, Flying Feeders, Piano Wire Screen, Factory Equipment.

## REFERENCES (Partial List)

|                                                               |                                                       |
|---------------------------------------------------------------|-------------------------------------------------------|
| W. S. Dickey Clay Mfg. Co.,<br>Kansas City, Mo.               | Streator Drain Tile Co.,<br>Streator, Ill.            |
| Gladding-McBean Co.,<br>San Francisco, Cal.                   | National Drain Tile Co.,<br>Terre Haute, Ind.         |
| The Denny-Renton Co.,<br>Seattle, Wash.                       | Wm. E. Dee Co.,<br>Mecca, Ind.                        |
| The Alberta Clay Products Co.,<br>Medicine Hat, Alberta, Can. | Hancock Brick and Tile Co.,<br>Findlay, O.            |
| The Ontario Sewer Pipe Co.,<br>Mimico, Ontario, Can.          | Buckeye Fire Clay Co.,<br>Uhrichsville, Ohio          |
| B. C. Potteries Co.,<br>Victoria, B. C.                       | Uhrichsville Clay Mfg. Co.,<br>Uhrichsville, Ohio     |
| Sidney Island Brick and Lime Co.,<br>Sidney Island, B. C.     | Robinsons & Sons Co.,<br>Uhrichsville, Ohio           |
| Tropico Clay Prod. Co.,<br>Los Angeles, Cal.                  | Robinson Clay Products Co.,<br>Akron, Ohio            |
| Big Horn Clay Products Co.,<br>Lovell, Wyo.                   | Windsor Brick Co.,<br>Akron, Ohio                     |
| The Red Wing Sewer Pipe Co.,<br>Red Wing, Minn.               | Shawmut Clay Co.,<br>Shawmut, Pa.                     |
| The Lehigh Sewer Pipe and Tile Co.,<br>Lehigh, Ia.            | Union Sewer Pipe Co.,<br>McKeesport, Pa.              |
| National Sewer Pipe Co.,<br>Webster City, Ia.                 | Winslow & Co.,<br>Portland, Me.                       |
| White Hall Sewer Pipe and Stoneware Co.,<br>White Hall, Ill.  | N. Y. State Sewer Pipe Co.,<br>Rochester, N. Y.       |
|                                                               | Atlantic Terra Cotta Co.,<br>Perth Amboy, N. J.       |
|                                                               | Georgia Vitrified Brick and Clay Co.,<br>Augusta, Ga. |

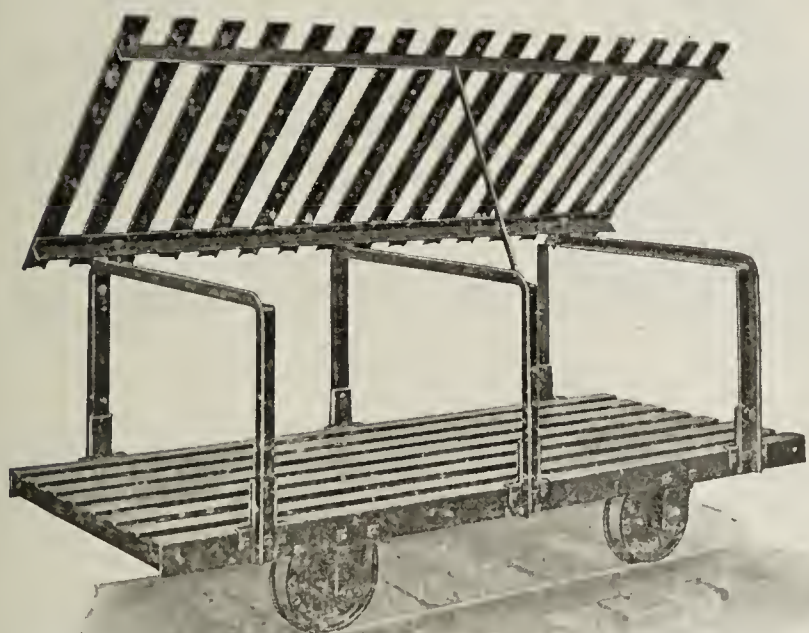
Send for Catalogue No. 30 of The Taplin-Rice-Clerkin Co., Akron, Ohio, U. S. A.—And Everywhere.





Type 445—25M to 40M Brick per day  
 Type 435—40M to 75M Brick per day  
 Type 425—75M Brick per day Upward  
 Or the Equivalent in Hollow-ware.

**THREE MACHINES OF ADVANCED DESIGN  
 TWO MAIN CASTINGS, SHAFTS AND GEARS**



Type G

**Dryer Cars  
 and  
 Industrial Cars  
 of all types**

**A Complete Line of  
 Machinery and Equipment  
 for the Clay Plant.**

**International Clay Machinery Co.**

**Dayton, Ohio, U. S. A.**

New York

Toronto, Ont., Can.

Pittsburgh, Pa.



## CERAMICS BOOM IN CHICAGO.

**C**HICAGO WILL soon be recognized as a real center, not only of production, but of education and research in the field of ceramics, if the efforts of the Chicago section of the American Ceramic Society and of Superintendent Mortenson of the Chicago schools, are successful.

With a view to putting the teaching of pottery and the ceramic arts and clayworking into the Chicago public technical high schools upon the same basis as the other crafts now being taught, the high school teachers in this line have effected an organization along the same line as the American Ceramic Society. The movement has the approval and support of Superintendent Mortensen and the Board of Education, and is receiving also the strong and helpful co-operation of the Chicago Section of the American Society.

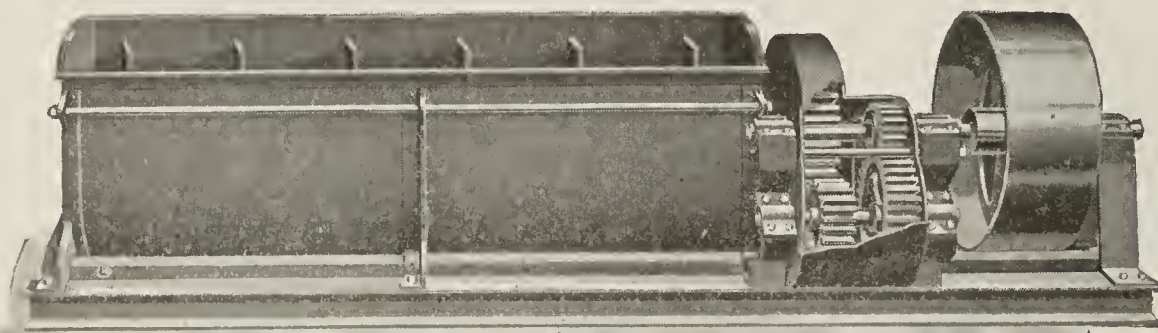
The Chicago Section held its annual meeting on Saturday, November 27, at luncheon in the Morrison Hotel. Thirty members—a new attendance record—participated. F. C. Steinhoff was elected chairman for the coming year, and B. T. Sweely, vice-chairman. William W. Wilkins of Lewis Institute, who has contributed much to the success of the Chicago Section by his intelligent and enthusiastic activity, was re-elected secretary and treasurer. Ross Purdy, the newly-appointed organizing secretary of the parent society, was scheduled to make a special trip to address this meeting, but news of a sudden death in his family necessitated his turning back while on the way to Chicago. Two interesting papers were presented, however, one on a new method of determining the porosity of clays and materials, by F. H. Washburn, and the other on photo-ceramics, by J. A. DeBouch. The Chicago Section will hold its next meeting some

time in January in conjunction with the Illinois Clay Manufacturers' Association, when it is expected that Mr. Purdy will be able to deliver his postponed address.

## CROSSLEY MINING COMPANY TO EXPAND.

**T**HE ABOVE NAMED firm which for seventeen years has been mining high grade clays, has decided to "expand" and to do this most effectively, they will change the firm name to that of The United Clay Mines Corporation of Trenton, N. J. They claim to be the only firm in the world able to furnish all kinds of clay for all kinds of purposes. There is no change in the personnel of the firm and the business will be continued as heretofore with the exception that they expect to extend their trade into new fields and to provide additional facilities such as the erection of a new warehouse at Trenton and a similar storage plant at East Liverpool, O. They will also establish a ceramic laboratory and give particular attention to the analyzing and testing of clays to ensure uniform quality.

In discussing the expansion plans, Mr. Geo. C. Crossley, president and general manager of the company, says: "Briefly, our aim is to give users of clay a service which they have never been able to secure from the general clay miner. This is not to be wondered at, for hardly any clay mines are large enough at the present time to stand the cost. We figure, however, that with the rigid practice of economy in mining operations, savings in transportation, reduction in selling costs and other general economies, it will be possible for us to give our customers all of this service and still save considerable money for them in the cost of their clays."

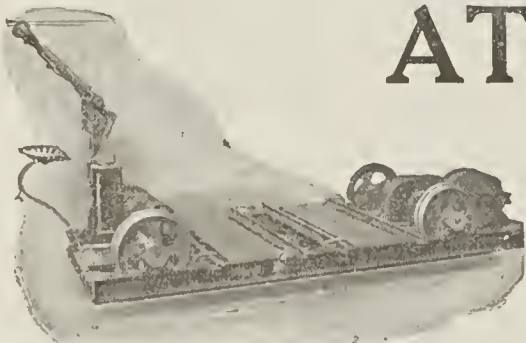


## TORONTO PUG MILLS

Built in either double or single geared models, any length from 10'0" to 14'0"  
Send us your inquiries.

**Toronto Foundry & Mach. Co.**

Toronto, Ohio.



No. 913

Double Truck Electric Transfer Car.

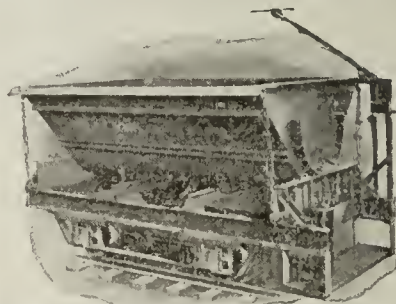
## ATLAS COST-REDUCING EQUIPMENT

Electric Transfer Cars  
Rocker Dump and Gable Bottom Cars  
Storage Battery Locomotives

Electric Trucks and Tractors

Tunnel Kiln Cars

Let us solve your haulage problems.



No. 217-EH

Large Capacity  
Electric Side Dump Car.

# The Atlas Car and Manufacturing Company

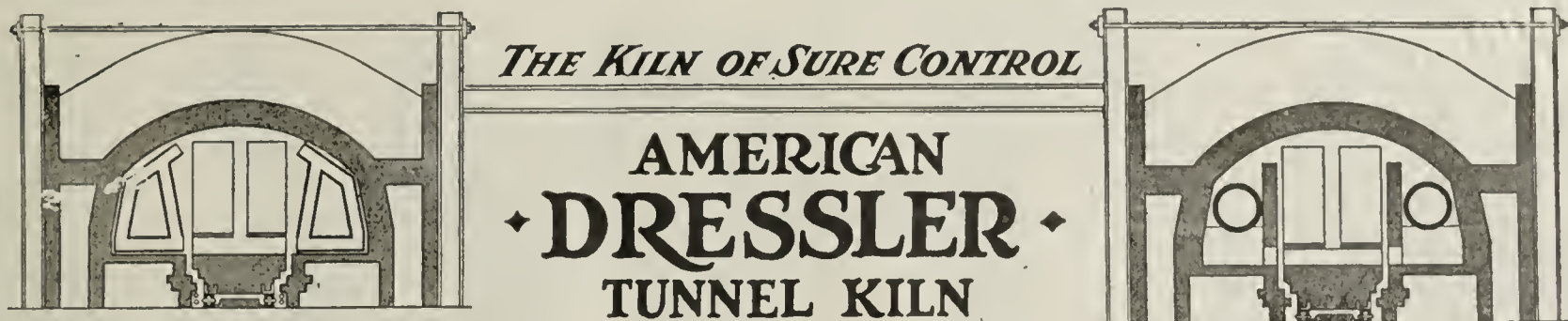
Engineers

Cleveland, Ohio

Manufacturers

Mention THE CLAY-WORKER.





## The Proof of the Pudding

WM. HANLEY, CHAIRMAN

L. E. MALLORY, PRESIDENT

WM. L. HANLEY, JR., GEN. MGR.



TRADE MARK REG'D U.S. PAT. OFF., ALSO REG'D UNDER LAWS OF PA.

**Bradford Brick & Tile Co.**

Bradford, Pa., Nov. 26th, 1921.

American Dressler Tunnel Kilns, Inc.,  
1740 East 12th St.,  
Cleveland, O.

Gentlemen:-

Am writing a letter to inform you that our Dressler Kiln is operating full schedule every day, and producing practically perfect brick.

Your company is to be congratulated on this installation as it is the result of a concentrated effort by a large specialized organization, who have worked out the hundred and one details that are necessary for the successful operation of a railroad tunnel kiln. I heartily approve also your policy of demanding the highest quality material and workmanship to suit the special part that is required of it in the operation of the kiln, as I am sure it is the cheapest in the long run.

In conclusion I wish to advise that we are going to put in a second kiln just as soon as business conditions improve sufficiently to allow an expansion of our production.

Yours very truly,  
BRADFORD BRICK & TILE COMPANY,

*W. L. Hanley Jr.*  
GENERAL MANAGER.

WHJR:IC

**Dressler Kiln===Burning a Million Face Brick per Month**  
**SAVING=== \$5.00 per thousand!**  
(Fuel, Labor, Time, Quality)

**American Dressler Tunnel Kilns**  
INCORPORATED

1740 East Twelfth St.

Cleveland, Ohio



## UNLOADING FOR 3 CENTS PER TON



Elevating and conveying equipment. Steel and malleable buckets furnished in all sizes and shapes. Chain, sprockets, etc.

Let us quote you on your requirements.

**The Columbus Conveyor Co., Columbus, O.**

## Clayworking Plants Designed and Constructed

Brick and Tile Plants Appraised.  
Clay Deposits Surveyed and Valued.

Let me help you solve your drying and burning problems from the standpoint of a practical brickmaker of many years' experience.

**A. W. Beecher, Indianapolis, Ind.**

## BURN WITH OIL

SAVE FUEL  
SAVE TIME IN BURN

## Make Better Ware

Eliminate the troubles from sulphur and carbon in coal gases.

"Mack's SYSTEM" is proving a big success on many clay plants.

Let us tell you about "Mack's Hydro-Carbon Burner" and our system of burning.

**McFALL ENGINEERING CO.**

421 S. LIBERTY AVE., ALLIANCE, OHIO

Written for THE CLAY-WORKER.

## THE CHICAGO SITUATION.



BATTLE FOR decent building conditions in Chicago and the overthrow of the old and vicious ring of crooked labor leaders and equally culpable contractors is going vigorously ahead under the management of the citizens' committee organized by the Chicago Association of Commerce for the purpose of bringing about enforcement of the Landis awards and cleaning up the rotten conditions which the Dailey state Investigating Commission has been bringing to light in connection with construction activities in Chicago.

On top of the organization and great activity of this committee, another organization of citizens has just come into being with purposes which are certain to ally it closely with the other committee which is headed by Thomas E. Donnelley. The new organization is known as the "Committee of Fifty" and its aim is to encourage the building and owning of homes. To bring this about it will endeavor to effect co-operation between all of the interests directly concerned with the financing, building and renting of homes. Walter F. Dodd is the general chairman and the committee includes bankers, architects, real estate men, settlement workers, college professors, clergymen, labor leaders, lawyers, the secretary of the Chicago Tenants' League, building contractors and civic leaders generally.

This committee has adopted a platform pledging itself to the following activities:

1. To support the Dailey commission in exposing crime in the building industry and to oppose all restrictive practices which tend to increase the cost of building.
2. To encourage proper methods of loaning money for home building purposes, and to aid in the formation of second mortgage companies to that end.
3. To standardize interior building plans for small homes so as to reduce construction cost without sacrificing individuality; also to encourage co-operation in erection of buildings in order to lessen costs.
4. To secure modifications of building ordinances in order to decrease the cost of small homes without decreasing structural or sanitary requirements or increasing fire hazards.
- 5 and 6. To discourage in every possible legitimate way excessive charges in financing or building of homes, and on the other hand to urge the investment of money in the building of homes as the surest way to conserve savings.
7. To co-operate with the United States government in its work of encouraging a nation of home-owners rather than rent payers.

8. To appeal to the Illinois Constitutional Convention to embody in its proposed new state constitution a provision permitting the general assembly to exempt moderate priced dwelling from taxation for a period of years.

9. To aid and advance any other proper means of lowering the cost of homes and lowering rents.

The executive committee includes beside Mr. Dodd, B. J. Rosenthal, who has been active in bringing the organization together, Miss Grace Temple, president of the Chicago Woman's Club, Mrs. Kellogg Fairbanks and LeRoy K. Sherman.

It is sincerely to be hoped that the committee will be discreet in carrying out its seventh objective and not seek to invoke federal aid from the United States' treasury, nor the extension of public credit for the benefit of private citizens. It is to be hoped also that they will reconsider their eighth proposal which seems to involve a very doubtful

(Continued on page 598)



# WHY

DO OPERATORS OF  
DRY PANS, WET PANS, CRUSHERS,  
SEWER PIPE AND TILE  
MACHINERY

PREFER

## STEVENSON EQUIPMENT

### THERE'S A REASON

A LIST OF NEAREST USERS ON REQUEST  
ASK THEM

## THE STEVENSON COMPANY

GENERAL OFFICES  
AND  
WORKS

Wellsville   ▪   ▪   Ohio

Western Sales & Engr. Office  
802 MONADNOCK  
BUILDING

Chicago   ▪   ▪   ▪   Illinois





# 1922 Will Soon Be At Hand



Preparedness for the work demanded will be your strength in production.

Do you know that we furnish the following in the highest quality equipment and supplies?

Single Roll Clay and Shale Crushers, Elevators and Conveyors, Plate Feeders and Disc Feeders. Complete outfits for crushing, storing and feeding clay or shale to dry pan.

Justice Clay Products Dryers---Radiated Heat and Waste Heat for drying every kind of structural ware. Most efficient obtainable.

The Underwood Producer Gas Burning System for burning every kind of clay ware in round or rectangular down-draft or up-draft kilns. Better burns and more economical results are being obtained every day.

Complete Coal Handling Outfits---Feeders, Elevators, Conveyors and Crushers. Unload coal from cars to bins at One Cent per ton.



**Mono Rail System with traveling power carriers distribute the coal to kiln furnaces and remove the ash and waste at small cost.**

**Finished Clay Cutting Wires for all cutting tables. They are best and cheapest.**

**Transfer Cars—single and double—roller-bearing and Hyatt roller bearing. Standard wheels and extra high wheels. The best, easiest running cars made.**

**Turn Tables—Self-contained and easy turning. Specially adapted for dryer cars.**

**Winding Drums—All iron construction with double eccentric adjustment to friction.**

**Piano Wire Screens of all steel and iron, substantial construction. Dust Elevators and Troughing, Flat and Drag Type Conveyors.**

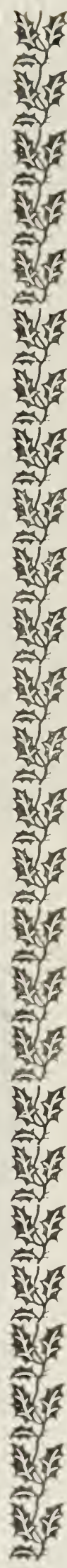
**Meco Copper Hard Babbitt is best and especially suited for all clay machinery.**

**Our Clay plant Engineering Service will prove valuable to you. When in doubt write us.**



# **The Manufacturers Equipment Company**

**Dayton, Ohio, U.S.A.**



*We wish You a Merry Christmas and a Happy New Year*



## BRICK MACHINERY

SPECIALISTS IN  
HIGH GRADE  
PRESSES

*None  
Better*  
SINCE  
1854

MAKERS OF  
UPRIGHT  
MOULDERS

WE BUILD A BRICK MOULD SANDER WHICH OUR CUSTOMERS CONSIDER A VERY EFFICIENT AND ECONOMICAL MACHINE.

WRITE US FOR DETAILED INFORMATION.

We also build Upright Moulding Machines, Red Baick Presses, 9" Fire Brick Presses, 12" Fire Brick Presses, Press Boxes, Horsepower Clay Tempering Machines, Steampower Clay Tempering Machines, Brick Mould Sanding Machines, Grinding Pans, Rubbing Plates, Clay Rollers, Pug Mills, Trucks and Barrows. Brick-makers' Tools of Every Description, Castings for Coal Kilns.

We also make any and all brickyard equipment repairs.

### PHILADELPHIA BRICK MACHINE WORKS

*Successors to*  
**GEORGE CARNELL**  
1820 N. 5TH ST., PHILA PA.



**HY-GRADE MANGANESE CO.**  
**WOODSTOCK, VA.**

Miners  
and  
Grinders

**Especially Prepared  
for Brick Making**

**Sales Office: Charleston, W. Va.**

### CHICAGO SITUATION.

(Continued on page 594)

economic principle. The idea of governmental assistance for this and that class whether rich or poor, large or small, does not accord with the ideals of individual independence which are the deepest foundations of our independence as a nation. Aren't we due for a little revival in peacetime patriotism? A little more thought about our common duties to government and a little less about how much in a dollars and cents way we can get out of government would be a good thing for popular government in this country—and that goes for the "big fellow" who wants to get a subsidy or a special tariff provision, or put through a private waterpower or irrigation project at the expense of a people's playground, just as much as it does to the smaller fry who are encouraged to think that government ought to help them to build homes or at least to excuse them from their full share of the tax burdens of government, just as much and not one bit more.

The movement of office buildings toward the north side is definitely "on." Already work is started to make way for the erection of a new office building to stand on the block bounded by Rush, Cass, Pearson and Chestnut streets. It will be but twelve stories in height, but will have an aggregate floor area considerably larger than that of the Wrigley building, so that for a while at least, it will have the distinction of being the largest office building on the north side. This building, like the Wrigley building, is to be of superior architecture and will have a brick exterior with terra cotta trim mantling, a structure of reinforced concrete. It is to be known as the American Fire building and will house four fire insurance companies—the Continental Insurance Company and the Fidelity-Phenix Fire Insurance Company, both of New York, and the American Eagle Fire Insurance Company and the Farmers Insurance Company of Cedar Rapids, Iowa. The first two companies will own the new building, which also will have as tenants probably a number of other fire insurance concerns who will move over from the "loop." The whole of the first floor will be devoted to shops and two attractive arcades will cross at right angles connecting with entrances upon each of the four streets upon which the building is to face. It is expected that the building will be finished in the spring of 1923. The Leonard Construction Company are the architects, engineers and general contractors for the building.

Another interesting north side project is the new Fullerton-Plaza Apartment Hotel near Lincoln Park, which is to cost in the neighborhood of \$500,000, and which the architects, Ronneberg, Pierce and Hauber, expect to be finished by the middle of next April. The building will be of brick and contain sixty-six apartments of one-two and three rooms and kitchenette, and forty-five regulation hotel rooms.

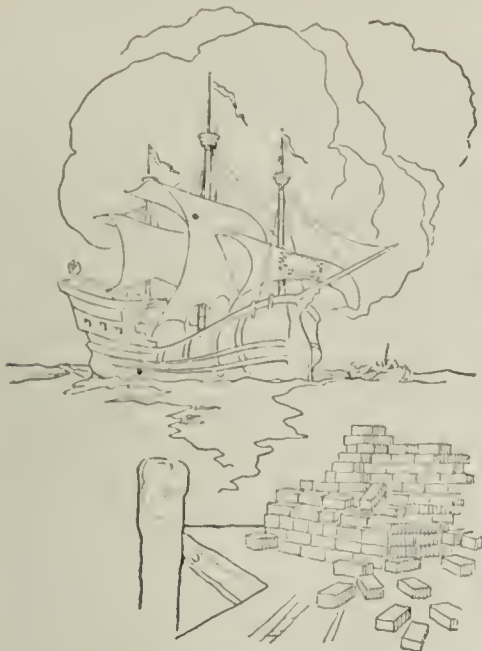
On the south side at 50th street and Drexel boulevard, the Kehilath Anshe Mayriv congregation has purchased a site and Henry Newhouse, architect and chairman of the congregation's building committee, together with F. M. Bernham, is drawing plans for an eighteen hundred seat synagogue, to cost \$800,000 and to be as large as Sinai Temple. The new temple will face on Drexel boulevard. At the rear of the lot and facing Fiftieth street there will be an elaborate and up-to-date community house with well-equipped gymnasium, one—and possibly two—swimming pools, library, Sabbath school rooms, etc. Both buildings will be of steel construction with brick exterior of artistic type. Rabbi Tobias Schanfarber, who has been the congregation's rabbi for twenty-one years, hopes the new structure will be completed by next November in time for the celebration of the seventy-fifth anniversary of the foundation of his congregation.

The "uptown" north side comes forward with announcement of a new \$200,000 structure—a combined store, office and apartment building of three stories, brick construction, to stand in Howard street, across from the Howard theater.

These are merely indications of what is going on. There has been some dropping off in number of permits taken out, as is natural at the fag-end of the year, and while the record for 1921 will be much better than that of its predecessor, it will be far from old-time standards. That 1922 will be a still greater improvement over 1921, there seems to be no doubt, but there will have to be an earlier rustle than now seems likely, if even next year is to lower some of the magnificent building records which Chicago has hung up in years past.

SCRIP.





## Brick From Holland For The First Brick Building In America

Until 1650, all bricks used in the Colonies came from either Holland or England. America burned bricks were first made in 1650 in New Haven. The manufacture of bricks then spread slowly through New England but for many years the importation of bricks was continued, owing to the inferiority of the domestic article.

Throughout the centuries, good brick has held an honored place. People sent across the ocean to get it. Brick has been built into the industry and achievement of all nations, yet there are brick manufacturers who are not securing all the business they should by intensive effort.

This is largely because some brick makers regard brick merely as a staple commodity, like sugar, that people are bound to use without being told why.

Brick manufacturers in all localities can create an even wider use of brick despite the popularity of any other building material.

The virtues of brick are so old and long accepted that they are sometimes overlooked by those who must be constantly reminded of their ability to meet every construction need.

Make them think of **BRICK FIRST.**



**"We Dropped  
Five Men From The  
Pay Roll and Increased  
Daily Production 15%"**

That's what the AutoBrik Machine accomplished for a brick yard in Kentucky and from New Jersey comes the word that "all previous production records have been broken." Another man adds that the quality of the brick at both his plants has been greatly improved.

Production increases, lowered costs—improved quality of the finished product—all recommend the AutoBrik Machine. Greater profits follow its installation; continuous production does not depend upon the human element; only one pallet man is needed; price competition can be overcome and the higher quality and greater uniformity of the bricks themselves will stimulate demand.

The AutoBrik Machine is recognized in many of America's largest, most profitable plants as the greatest improvement ever made in the soft mud brick machinery field.

# AutoBrik Machine

Let us send our interesting, illustrated catalog. Let us tell you what experienced brick men say about the Auto-Brik.

**LANCASTER IRON WORKS, Inc.**

Lancaster, Pennsylvania, U.S.A.

Brick Machinery Dept.

James P. Martin, Mgr

Specialists in completely equipping Building Brick and Fire Brick Plants for the manufacture of brick by the Soft Mud Process.



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**Boss**  
SYSTEM

### Boss Ten-Hour Dryer

Will dry your daily output in TEN HOURS with either WASTE HEAT or EXHAUST STEAM.  
Less cost to build—Less cost to operate.

### Boss System of Burning

Brick or hollow ware burned in ONE-HALF LESS TIME and ONE-HALF LESS FUEL. Increases your kiln capacity. Dryers and kilns designed and built. Let us solve your drying and burning problems.

ORIGINAL  
**Boss**  
SYSTEM

**J. C. Boss Engineering Co.**  
Elkhart, Indiana

ORIGINAL  
**Boss**  
SYSTEM

YOU HAVE KNOWN FOR YEARS THAT

### RICKETSON'S MORTAR COLORS

are pure and brilliant in tone, economical in application, absolutely reliable, and a permanent guarantee against fading and washing.

### Why Not Insist on Having Them?

They are the acknowledged best for all uses---Mortar, Brick, Cement, Concrete and Stone.

Red, Brown, Buff, Chocolate and Black

### RICKETSON MINERAL PAINT WORKS

MILWAUKEE, WIS.

### CARS CASTINGS DIES

In our Foundries and Machine Shops we are prepared to furnish Dryer Cars, Clayworkers' castings and Dies of all kinds for sewer pipe press and machines, Etc. Write for Prices

**Wm. E. Dee Co., 30 N. LaSalle St.**  
**Chicago, Ill.**

### Over 60,000 In Use

Oil Burners For All Types of Kilns



Perfected to  
The Minute  
**HEAT TELLS!**  
Write us today

"Be Sure It's Schurs"

### SCHURS OIL BURNER CO.

Established 1905  
Los Angeles, Cal., U. S. A.



# Classified Advertisements

## FOR SALE, WANTED, ETC.

Advertising rates in this column 35 cents a line, or 6 cents a word each insertion; about six words make a line. Cash should accompany the advertisement to insure insertion. No ad inserted for less than \$1.00.

## WANTED, ETC.

### WANTED—TO EXCHANGE

240 acres of farm land in Macoupin County, Illinois, for a small brick or tile plant. Address E. W. G., 12 3 c. Care Clay-Worker.

### WANTED.

Position as manager or superintendent of brick plant, with an up-to-date concern. Thoroughly experienced and services available immediately. Address MANAGER, 111 cm. Care Clay-Worker.

### WANTED.

By a high-class, well qualified man, position as superintendent or manager of hollow ware plant. Have had practical experience in manufacturing all kinds of hollow ware, including silo block and conduits. References as to ability, etc. Address

HOLLOW WARE,  
9 3 d Care Clay-Worker.

### WANTED POSITION.

Young man, single, 23 years old, desires responsible position where hard and earnest work will be appreciated. Familiar with correspondence, secretarial work, typing, purchasing, sales correspondence and follow-up work and general office work. Formerly employed by a large clayworking machinery firm. Apply, CASS, Care Clay-Worker.

## ATTENTION

The control of the Pacific Coast Trade in pottery and clay products is yours, if you have the ability to handle it. We have unlimited quantities of white-burning china clays, infusorial earth, beautiful red-burning clay, fire clay, and all the raw materials necessary to carry on a business worth millions. BLUE MOUNTAIN REFRACTORIES CO., Ltd., 2563 Oxford St., Vancouver, B. C., Can. 10 6 c.

## POSITION.

Brick manufacturer with years of successful operation and organization experience, desires correspondence with company desiring a manager or superintendent or parties having property to develop. Address Clay-Worker. 111 d.

## WANTED.

Ceramic chemist. In reply kindly state your experience, if any. Give references and salary expected. THE HEINZ ROOFING TILE CO., 121 d 1740 Champa St., Denver Colo.

## WANTED.

Second hand Cutter for 12 in. building tile. Also dies for all standard sizes building tile, to be used on Brewer Mill. Address

PDT,  
12 1 d Care Clay-Worker.

## WANTED.

Desirable face brick plant about 40 to 50 thousand capacity. Especially interested in light colored brick shipping to New York and eastern markets. Address Box 176, Columbus, Ohio. 12 1 d.

## BUSINESS OPPORTUNITY.

Experienced man with some capital or security, to take equity or working interest in a thoroughly equipped brick and building tile plant.

BUSEY'S STATE BANK,  
12 1 cm Urbana, Ill.

## WANTED.

Position as manager or superintendent of brick plant. Am an A No. 1 burner, and a practical man in all work from clay pit to office. Satisfactory references. Address

GOOD MAN,  
12 3 d Care Clay-Worker.

## WANTED—POSITION.

As superintendent or manager of brick and hollow tile plant, with many years of experience. At present engaged but desire a change for special reasons. Best of references. Also an A No. 1 burner. Address

L. A. P.,  
12 3 c Care Clay-Worker.

## WANTED.

Position as superintendent of brick plant, where there is a chance for advancement, and also where plant is run the year round. Have 12 years' experience. Would prefer the east, but will consider position anywhere. Address,

EAST,  
12 1 c. Care Clay-Worker.

## WANTED POSITION.

By successful brick man as manager or superintendent of face, fire, paving or common brick plant, familiar large outputs and modern conditions, knows business in all its branches. Best of reference.

PLANT,  
12 1 c. Care Clay-Worker.

## ATTENTION.

Big Stone Gap, Va., offers an unparalleled opportunity for the establishment of a modern brick and tile plant. Location, materials, freight and demand for the products are ideal. Address R. B. McGeekin, Secty. & Treas. of "Ad" Club, Big Stone Gap, Va. 121 c

## WANTED.

An intelligent Southern man experienced as a burner of brick or hollow tile kilns to learn terra cotta burning and who can by developing take over supervision of kiln firemen, kiln yard, kiln repairs, etc. Apply by letter outlining experience in detail, giving present located, pay expected, etc. Address Kiln, The Clay-Worker, Indianapolis, Ind. 122 c

## WANTED—POSITION.

A man with an extensive manufacturing and selling experience in both face brick and hollow tile, desires a connection with some one of the larger face or tile companies of the East. At present engaged in a different line, but is anxious to get back into the brick and tile business again. Nothing but a high grade position considered, and unquestionable reference will be furnished to those interested. Apply

"TEX-TILE,"  
121 d Care Clay-Worker.

## FOR SALE

### FOR SALE.

Two E. M. Freese single geared brick machines, capacity 5,000 brick per hour, factory rebuilt. Address

MACHINES,  
11 tf d. Care Clay-Worker.

### FOR SALE.

One two mold dry press machine complete, with extra molds, dies, elevator, mixer, line shafting, pulley, etc.

Complete equipment for 10,000 capacity plant.

SUPERIOR PRESS BRICK CO.,  
3190 So. Kingshighway,  
11 tf d. St. Louis, Mo.



**Classified Advertisements.**

**FOR SALE.**

Four Mold Boyd Press. Heavy duty type. A-1 condition. Address  
121 d **FIRE BRICK.**

**FOR SALE.**

One Raymond 7 ft. Dry Pan—in use but five months—guaranteed to be in A-1 mechanical condition. Price \$750. Would exchange for 9 ft. Dry Pan.  
**THE TIERNAN BRICK CO.,**  
121 c **Macomb, Ill.**

**FOR SALE.**

Side cut brick plant. The only one within eighty miles. Everything in first class condition. Cannot near fill the demand.  
**BROOKS LONG BRICK CO.,**  
11 tf d. **Jackson, Tenn.**

**FOR SALE.**

About 10000 punched steel pallets from 8 in. x. 15 in. to 12 in. x 18 in. about 3-32 thick. All in first class shape.  
Address  
**ALABAMA,**  
12 tf d **Care Clay-Worker.**

**FOR SALE.**

Big Wonder Brick and Tile Machine, largest size, with eight dies for hollow tile and brick, new augers and all in good mechanical condition, guaranteed to not laminate the ware. A wonderful machine at one-half price.  
**STANDARD BRICK CO.,**  
12 tf d. **Memphis, Tenn.**

**FOR SALE.**

An up-to-date clayworking plant with daily capacity 100 tons hollow ware, in operation to August 1, 1921.  
Round down draft kiln equipment.  
200 H. P. steam power plant with coal dump pit of 400 tons capacity.  
1500 feet of switch track.  
In corporate limits of city of 25,000 population.  
50 miles from Chicago on outer belt line with \$2.00 switching rate to 3 other railroads.

Clay supply is exhausted and have been shipping clay for some years, and have clay dump and gondola cars equipment.

Making low priced ware and are transferring manufacturing operations to claybank

For manufacturing any grade of clay ware that will bear expense of shipping clay this is a good buy.

Our price is based upon market value of real estate, plus junk value of plant.  
Address **PLANT,**  
11 2 d. **Care Clay-worker.**

**FOR SALE.**

American double geared 10 ft. steel shell pug mill with friction clutch pulley, full set new knives; good condition. Price \$350.00 cash. Address XYZ,  
11 3 c. **Care Clay-Worker.**

**FOR SALE.**

100 roofing tile dryer cars all steel, best possible construction; 9 ft. 4 in. long; 2 ft. 8 in. wide, height aboverails 5 ft. 10 in., 8 decks, 24 in. gauge, first class shape. Address  
**DRYER CARS,**  
12 tf d **Care Clay-Worker.**

**FOR SALE.**

One No. 41 American Augur Machine, price for immediate sale \$400.00. Also one Champion Rock Crusher, price \$200.00, F. O. B. Byesville, Ohio.  
**THE NICHOLSON CLAY PROD. CO.,**  
P. O. Box 155,  
10 3 cm **Cambridge, Ohio.**

**BRICK MACHINEERY FOR SALE.**

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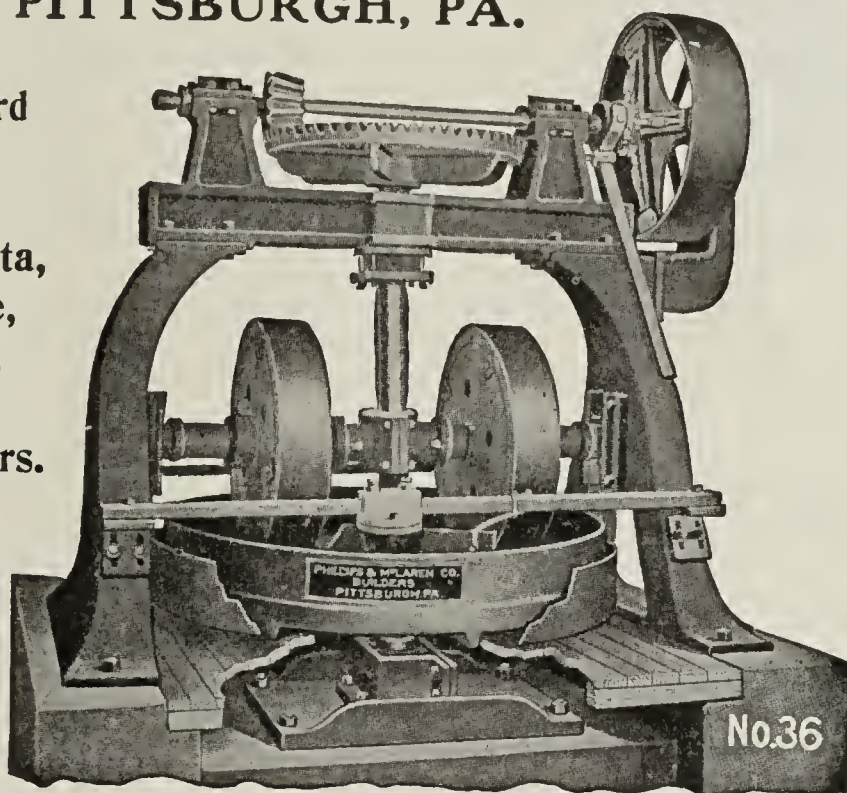
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Written for THE CLAY-WORKER.

SEEN IN NEW JERSEY.



ACTIVITY in building circles is becoming more pronounced each week, and more inquiries for brick are being received as the winter advances. Most contractors are anxious to place their orders, sign contracts and have their deliveries start immediately so as to lay in their stocks before the shortage begins to be felt, which all feel certain is a condition which will develop

in the next three months.

The large projects now on foot will require more brick than it is thought possible to produce at the yards which are open along the Hudson and Hackensack rivers. Smaller building contracts are reaching a total never heard of in this part of the country at this season of the year.

At Newark the building permits issued during the first week of December show an increase of almost twice as much as those filed during the entire year of 1920. The value of the work on the seventy-seven applications amount to \$444,427.

On December 6, bids were received by the state for the construction of a new normal school building in Glassboro, to be built of fire-proof construction, two and one-half stories high. Plans were prepared by Arnold H. Moses and the cost was placed at \$5,000,000.

Bids were also received on that date for the construction of a new school to be built at Lincoln, two stories high, to cost approximately \$40,000. Plans were drawn by Rasmussen & Wayland.

At Paterson, bids were awarded the John Ferguson Construction Company for a large theater to be built of brick with a terra cotta trim on the front and side. This building is to cost \$500,000.

In Trenton and Camden housing projects are under way, some of which are built of brick and cement, or brick and wood trim, though most of the houses have more brick than any other building material.

There appears to be more of an interest displayed for reds than light buffs, and deliveries are being made here for \$43 and \$45, with very little price cutting reported. Creams and buffs are quoted at a higher price coming from Pennsylvania and Southern Jersey, some of which is delivered on the job by motor truck for \$48 to \$52.

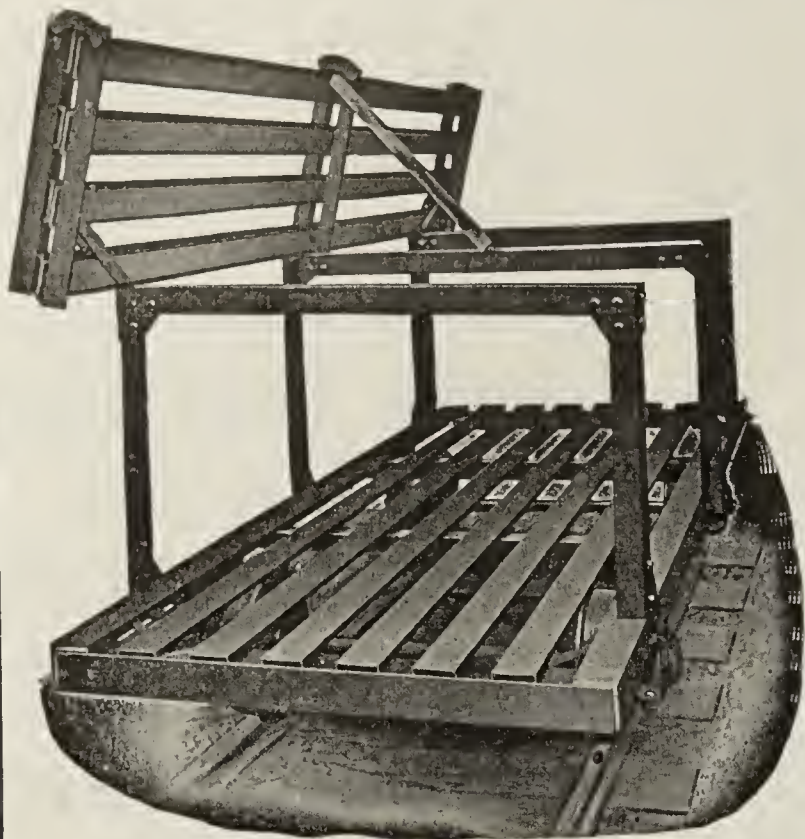
Commons are not so easy to procure since plants are being operated up to capacity and are being delivered as fast as taken from the kiln. Much motor truck delivery is noted in the eastern section of the state with the general price reported as \$18 on the job.

Haverstraw brick are being delivered in Paterson and vicinity at \$18 on the job, via the railways, as well as water.

Hackensack River plants have not closed as early this season as usual due to the open winter and at least one has signified their intention of staying open all year provided the season does not turn out to be too severe.

Excavation work has been begun for eleven two-family houses by the Newark Housing Corporation of 24 William street, Newark, N. J., at a total cost of \$125,000. The company declares it will build 100 more such houses, containing six rooms, this spring. They are all of fire-proof construction, using both brick and tile.

According to the latest survey made by the building industries of New Jersey the business at the close of 1921 is showing the activity which is usually shown in the spring, which is approximately double that of the normal year. Building investors are proceeding to award contracts cautiously and it is the general belief that 1922 is going to be a record year, the small work being ready for rental purposes in about six months.



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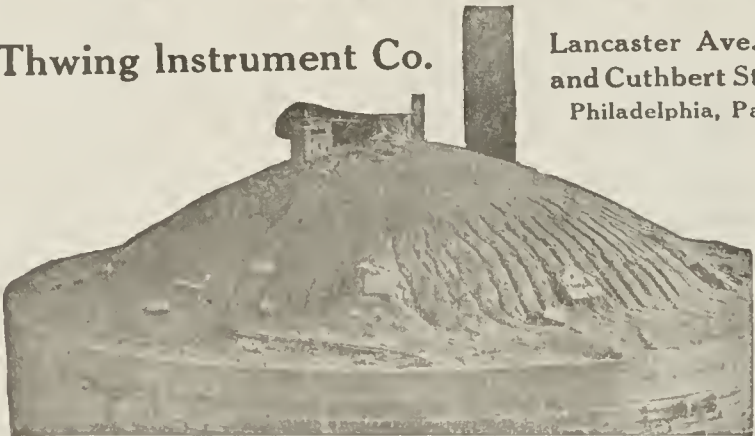
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# THWING PYROMETERS

Thwing Instrument Co.

Lancaster Ave.  
and Cuthbert St.  
Philadelphia, Pa





The wage readjustment which is now under discussion is expected to bring about the needed reduction in building costs, which seems to be holding back some of the larger contracts. Others claim that with the amount of business on hand which is on the tables of the designers, nothing can hold it back.

Burnt clay markets are on a firmer basis than in years with Hudson River brick quoted from the yards at \$14, hollow brick, \$25; hollow tile partition block, \$152; Pennsylvania red face brick, \$43 to \$45; light face, \$48 to \$52; white American enamel, \$125, and Kitanning buffs in the rough finish, \$51.

Brokers such as N. H. Sloan, R. Black and others in the State of New Jersey, who have returned from the convention just closed at White Sulphur Springs, W. Va., are all optimistic, but say it is not safe to wait until spring to place orders for big projects in common or face brick. They also claim that most of the men at the convention reported business as "good."

According to the reports received from the Thomas Maddock Sons Co., Trenton, N. J., a large order has recently been received for sanitary fixtures to be used in the new city hospital at Cleveland, Ohio. Another large order which will keep their plant in operation for several weeks is one consisting of 1,000 pieces of ware such as lavatories, jets, fixtures, etc., for the new Biltmore Country Club, of New York.

A building permit has been granted to the New Jersey Porcelain Co., Trenton, to erect a three-story addition to its plant on Pennsylvania avenue, because of increased business and lack of space to operate their machines.

At an estimated cost of \$30,000 the Camden Pottery Co., Camden, has started the erection of a large new factory, to be built two stories high, with a front on two streets to manufacture sanitary earthenware.

The Woodstown Pressed Brick Co., Woodstown, has been organized and incorporated, to manufacture only the best grades of burned clay products. The town is situated near Camden and anticipates a good business for the coming year.

According to the manufacturers of hollow tile and terra Cotta, prices are now at their lowest ebb, and are likely to be advanced in the near future. The time has gone by when buyers could practically name their own figure. There is little exterior tile used in this section of the country and partition blocks in sizes 2x12x12-inch and 3x12x12 is quoted at \$105 from the yard, four-inch, which is the size most used here, is \$155 at the yard per M. with 6x12x12 at \$175.

The New Jersey Tile Company, Brunswick street, Trenton, N. J., makers of vitrified ware, have purchased two extra lots on which a new factory is to be erected immediately, so that the company can enlarge their output.

Building Inspector Quigley, of Paterson, N. J., reports a quarter of a million dollars increase in building over the same month last year. During the past month 150 building permits having a valuation of about \$379,048, were issued, while in the same month last year ninety-six were issued valued at \$137,613.

The Southwestern Supply Company, of Plainfield, N. J., whose stock of building material was sold last week at a bankrupt sale, were organized again this week with Francis J. Tyson as president, George Yuck as vice-president, and Joseph J. Mutnick, Jr., as secretary and treasurer. The Southwestern Supply Company is the new concern's name.

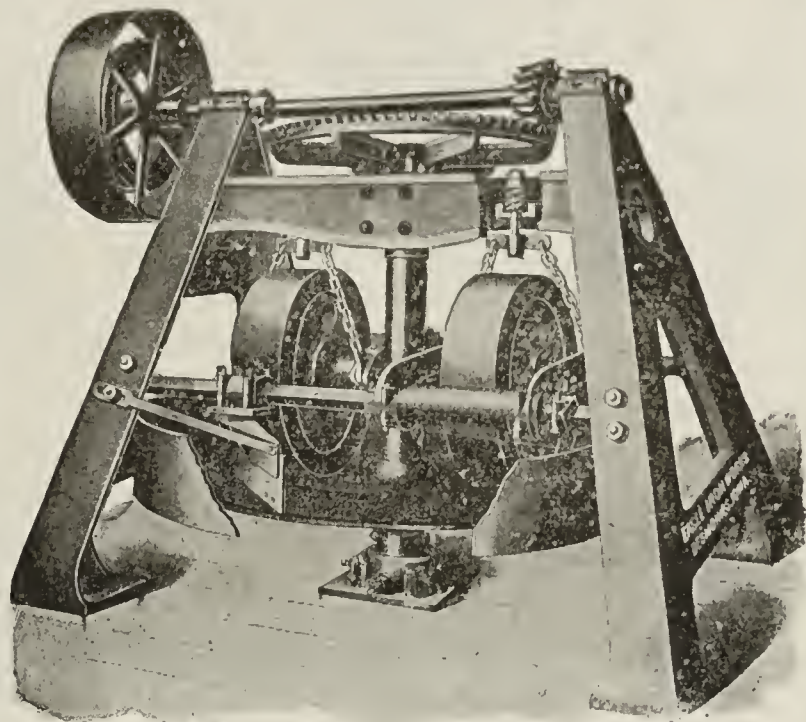
BENTON.

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We are told that leaders in banking and commerce have decided to organize a foreign trade financing corporation with a capital of a hundred million dollars and a credit capacity of a billion dollars. This is not only a good way to permanently develop our international trade, but it should help materially in stabilizing exchange rates and the finances of the world.

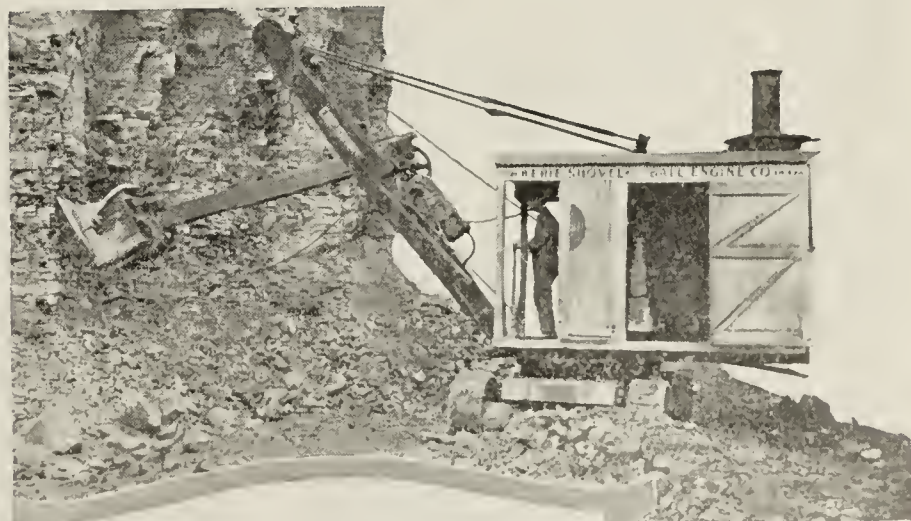
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Other valuable features which our catalogue fully describes.

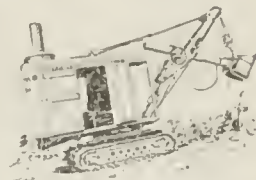
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"WITH ONE MAN and one ERIE Shovel, we easily get out 300 cu. yds. per day. This is sufficient to take care of the daily output at each of our 3 plants, but we could easily increase this output if necessary. In our opinion, the ERIE is the shovel."—Edw. T. Conley, Sec'y. Bradford Brick and Tile Co., Bradford, Pa. (Owners of 3 ERIES.)

For larger output than the above—500 to 600 cu. yds. per day, or more—it is advisable to use two men on the shovel. But when your plant requirements are not too great, an ERIE and one man will serve, and save you considerable money in labor cost. We will be glad to send you data showing just what you can do with the ERIE. Write for Bulletin C-16.

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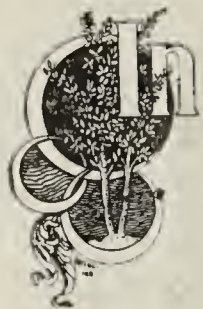
*Frank E. Jago, Resident Manager*



*32nd Street and Broadway*

Written for THE CLAY-WORKER.

CINCINNATI BRICK AND BUILDING NEWS.



VIEW OF THE fact that business has been off of late in the building industry it would be presumed that the employees would be eager to grasp the situation, and by their co-operation assist in helping along a more active condition. In other words, they would be willing to abide by the action of the arbitrator, Rabbi David Phillipson, who determined upon a limited re-

duction in the wages of the various trades connected with the building industry. It was also further agreed that the decision was to be accepted by both sides, and to find that a number of the unions are backing out, is not a healthy sign.

In view of the above the plan is not being urged for an open shop after the first of January, and this seems likely to be the outcome of the matter. There have been a number of meetings among the employers, and as the matter has reached a stage that demands some more than ordinary means of settlement, the open shop plan appears to be the only solution of the problem. Business in the building line had begun to look up with the settlement of the wage question, and it was hoped that this would prove to be a material aid in this way. But the attitude of the workers has put another phase to the matter, and it now seems like an open shop will be the only satisfactory conclusion.

Building is not likely to become very much improved for a time, even though the matter of the labor and wage questions is settled. High prices of materials, that are made still more so by the high freight rates, cannot be other than a serious handicap, and with the winter here it is but natural to look for a reduction in the amount of building that would ordinarily be undertaken. There are, however, a number of larger projects that have been planned for some time and that are seemingly nearing a more tangible stage, much, however, depending upon the outcome of the labor situation.

The demands for brick and other clay materials are being curtailed on this account, and the future will be marked by the result of the conditions in this way. The number of permits issued for the month of November was larger than those of a year ago, but the cost of improvements for the present year were less than those of the previous period for 1919, the reduction being about \$500,000. The number of permits for November, 1921, was 1,121, with an estimated cost of \$945,195, while the number of permits for November, 1920, was 961 permits, the amount represented was \$733,560.

The report is that a number of unexpected complications have followed the action of the Ohio Public Utilities Commission in reducing extensively freight rates on paving brick. A complaint has been made by the asphalt block interests in the form of a proceeding against all the railways in Ohio, asserting that the reduction in the freight rates to a competitor had seriously injured asphalt interests. Similar reductions have been asked.

Work has been started on tearing down the old buildings at the southwest corner of Fifth and Walnut streets, for the purpose of building the new addition to the Hotel Gibson, that was contemplated some months ago. The contract has been awarded to the Wells Bros' Construction Co., Chicago, and the new building a fourteen-story structure, will be started just as soon as the labor agitation has been settled. The cost of the building will be about \$1,200,000.

Owing to the fact that the Johnson building will be torn down very soon, the offices of the Builders Material Co., will be moved this month from that structure, to 600 and 601 Lincoln Inn Court building.

Mrs. F. H. McKinney, wife of one of the officers of the Cincinnati Clay Products & Supply Co., died, some days ago.

John M. Stoner and J. G. Wilde, of the Cincinnati Clay Products & Supply Co., attended the face brick convention held at White Sulphur Springs, Va., the first part of December.

The Queen City Shale-Brick Co., has been feeling the effects of the labor agitation here, and finds the demand for brick to be very much less than it has been. The plant has been closed down as the demand has been so much off of late. There is not much to look forward to until the situation clears some.

CINCY.



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SUBJECT OF BURNING.**



Written for THE CLAY-WORKER.

### THE NEW YORK SITUATION.



CURRENT DEVELOPMENTS in the building construction market are pointing toward an unprecedented demand for fire proof materials. It is usually in the spring that large projects come forth, yet each week some gigantic housing proposition develops into a reality. The last was a contract awarded for 400 homes, two stories in 20 feet dimensions to cost \$2,500,000. Institutional buildings and other privately financed projects are coming out in fair volume with October and November construction greater than for September.

Work coming ahead for winter activity has shown no disposition to lower the year's high peak. On October 1st, from 104 brick manufacturing plants reports were filed claiming there were on hand in the entire country 205,000,000,000 brick and orders were now on file for 137,644,000,000. This leaves a very small number to be delivered to those concerns that wait until the last minute to place their order.

Brick dealers are replacing stocks with far more alacrity now that the late autumn building trend has proved itself to be firmly grounded. One dealer after making a survey of the situation for the entire country has started to stock up and is taking all of the brick that can be had for immediate delivery.

Yards on the Hudson are beginning to close for the winter and production has been cut down considerably. Advance orders are being placed and deliveries are starting for early spring work with contractors claiming they prefer to have

the brick delivered now and if bad weather starts they are protected for the early work.

According to the reports filed with the New York Department of Labor the wages of the workers continues on the downward trend. The average wage during October, was \$24.36 or an average decrease over September of seventy-one cents. The decrease was due to the reduction in the number of employes through the closing of producing plants for the winter.

October building reports have been recorded which show an increase of 25 per cent over those of the same period last year. In Manhattan alone the new work given out was valued at \$21,177,000, with the total construction over \$30,000,000. There were 682 permits for new buildings issued up to that time this year costing approximately \$106,976,834, as compared with 705 for the same period of 1920, valued at \$89,283,638.

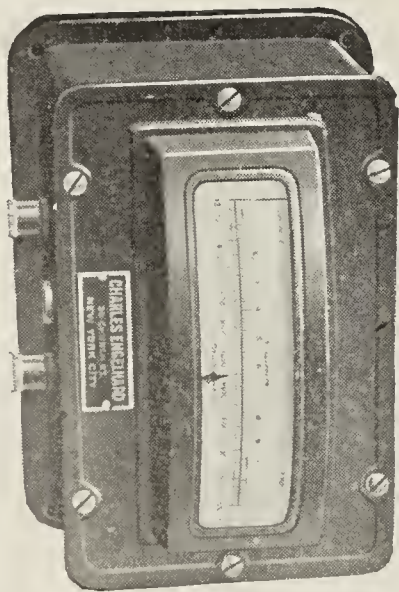
The yards producing brick on the Hudson are shipping from forty to fifty barges every week, and distribution is heavy throughout the Metropolitan district.

A price of \$14 and \$14.50 has been quoted f. o. b. yard for first and seconds ranging from \$12 to \$13. The good grades of common are quoted at \$17.50@ \$18 on the job.

Plans are being made to ship via motor truck if the season proves to be too severe for the waterway. This will be carted by contractors who are anxious to get their material.

According to information received here the National Fireproofing Company, which was practically closed down for some time, has been opened up and a good volume of business has been reported from their plant.

The New York Chapters of the Knights of Columbus plan to erect a \$2,000,000 club house at 236 to 244 West



## CONES ARE GOOD

They tell you when certain temperatures have been reached in your kilns. But they are not suitable for temperature control; that is the field of the pyrometer and particularly the recorder.

If your plant were equipped with

## ENGELHARD PYROMETERS

you would find that your burn would be shortened, that you would have fewer seconds and that you would have used less fuel. You would also find that you had pyrometers that have no superior for accuracy, strength and dependability, and their low maintenance cost would make a decided hit with you.

You would soon be telling others that

**ENGELHARD PYROMETERS ARE GOOD PYROMETERS  
TO STANDARDIZE ON.**

**CHARLES ENGELHARD, Inc.**

**30 Church Street, New York City**



Fifty-first street. The building will be fifteen stories in height, having 300 bedrooms, diningrooms, lecture hall, and an auditorium to seat 3,000 people. According to the tentative plans the building will be of Gothic type with considerable terra cotta used as a trim with enamel brick to be used as well as tile on the outside.

G. O. Mears, of the Bloomsburg Brick Company, of Bloomsburg, Pa., was in the New York market the first week in December calling upon friends, making a lengthy stop with the Hay-Walker Brick Company.

In a statement given out by Colonel John B. Rose, the cost of a tow from the Haverstraw brick yards to New York in 1910 was \$37.56 per barge. In 1919 there was 20 per cent added for advance charges making it \$192 per barge. From Newburgh Bay it was \$60 a barge in 1914 and advanced to \$248 in 1919. From Kingston the 1914 charge was \$75 and has gone as high as \$348. To go up the river a tow costs the handlers of brick and other building materials \$90, but this price has been raised since to \$480.

During the month of October there was reported an increase in activity in all of the eastern plants, though it is not thought likely that such favorable reports will be found for November. A few large orders have been placed. One recent inquiry sent to the New York office of the New York American Enamel & Brick Company was for 100,000 brick or more tapestry brick in a range of five colors for a large hotel to be erected in New Jersey.

A. L. B.

There are no ready-paved highways to ambition's goal, any more than there is a royal road to learning, or a quick way to get rich. There are many seductive by-paths of promise, but the broad way to these things is through hard work and upright living.

## BUILDING BRICK EXPORTS TAKE BIG JUMP.

JUST available at the Department of Commerce, Washington, are statistics showing our foreign sales of brick for the ten months ended on October 31, 1921, as against those for the corresponding ten months which ended on October 31, 1920. While building brick shows a substantial gain in the ten-month period ended this year over that ended last year, fire brick exports have declined nearly one million dollars.

While the department offers no explanation of the big decrease in foreign sales of our fire brick, it is stated that the unusual increase in the exports of building brick is accounted for by the fact that the countries which suffered devastation by war operations are now importing our building brick largely for purposes of reconstruction. The losses in exports of fire brick are sustained mostly in our Canadian, Latin-American and nearby trade.

It is predicted by officials of the Department of Commerce that the gains shown in exports of building brick in the ten months ended October 31, this year, will continue at an even greater rate of increase as the financial condition of foreign buyers regains its normal status.

Following are the export figures for the first ten months of each of the years named.

|                      | 1919       | 1920       | 1921       |
|----------------------|------------|------------|------------|
| Building brick ..... | \$ 202,066 | \$ 317,656 | \$ 393,267 |
| Fire brick .....     | 2,373,413  | 3,071,015  | 2,120,091  |

American manufacturers and exporters of brick and tile will be interested to know that in the new customs regulations just promulgated by the Canadian government, requiring marking of country of origin on imports, fire brick, paving brick, face brick, enameled brick, terra cotta blocks, tiles, etc., require no marking whatever, and are to be admitted to Canada on the same basis as heretofore.

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CHICAGO, ILL.

Mention THE CLAY-WORKER.



Written for The Clay-Worker.

### AMONG PHILADELPHIA BRICK MEN.



IS GENERALLY supposed to be bad business ethics in years like 1921 to talk about booms in any particular industry, but the truth must be told and in Philadelphia there is every symptom of an impending boom in the building industry, due in the spring. The amount of work begun this fall which could not be postponed, was the first indication. Now comes extensive plans of industrial construction, home building, apartment building—of general expansion.

The great peak of building, according to the experience of past years, is usually reached at the end of June. This year, however, September led in the number of permits with a total of 430 for dwelling houses. This activity continued during October and eager owners, aided by warm, fair weather, last month, were able to progress unusually well. In November 288 permits were issued, five of which were for tenements or apartments, as against 42 permits for the same month last year.

Throughout the city builders are preparing for heavy business next spring. Some large advance orders for materials have been placed since it has been feared that there would be a scarcity when all the work planned had been started. So far this year, 2,054 dwelling permits have been issued, an increase of 759 over last year's total. The average number of dwellings annually erected in Philadelphia prior to 1917, however, was 7,150.

Operations have been increasing so rapidly within the past few months that the decrease of \$21,000,000 for construction

in the early part of the year has been cut down to a decrease of \$14,141,350. Only November, 1919, of the last ten years, shows a higher estimated cost than the month just passed. The problem now before builders and financiers is, to provide temporary means for the construction of all works included in the extensive program proposed, and this problem will become more glaring if the weather throughout the winter is mild.

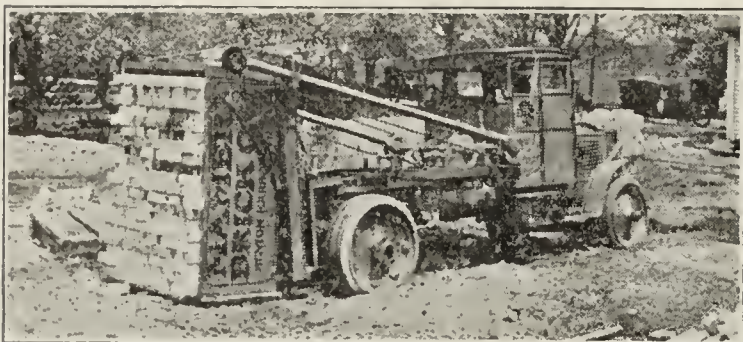
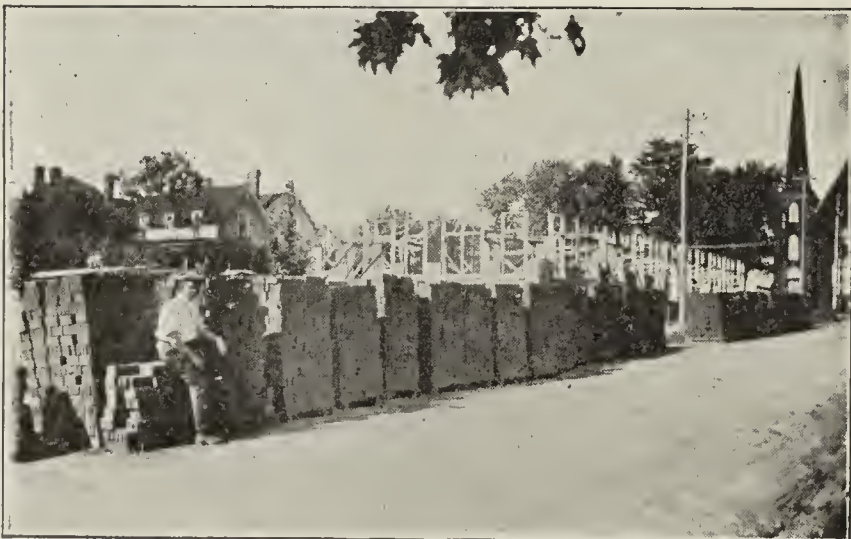
Activity has seldom continued good as late as this year. One of the last days of November saw permits for \$1,100,000 in building issued, one of the biggest days this year.

Building activity next spring, according to predictions of construction analysts, builders, contractors, material men and the financial interest, will, in all likelihood, be one of the greatest spurts in building that Philadelphia has experienced in many years. It has been estimated by some that construction in this city will probably total \$20,000,000 for the first five months of next year.

If all of the outlying districts of Philadelphia were to be included in the building boom it is likely that \$25,000,000 or \$30,000,000 would be the better estimate. One builder, who does the majority of his construction just outside of the city, contemplates erecting 500 more dwellings. This is one builder only, admittedly one of the biggest, but there are a number of others who contemplate expanding their programs within the next few months.

Dwelling construction will be the most important factor in next spring's building. While it has been announced that there is an acute shortage of dwellings, it seems that this statement is somewhat far-fetched. There are plenty of dwellings at high prices and at medium prices, but none at low prices. The demand, however, is not for mere houses, but for those selling around \$4,000 having most of the con-

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Some of these concerns are using two or three Equipments. Several have been in constant use for Two Years.

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**American Truck Body Co., Inc.**  
**Martinsville, Virginia**



veniences the public has been educated to demand. Electricity, the gas range and hot-water heat can be installed in the new home in many cases as reasonably as the old-fashioned kitchen coal range, gas throughout the house and other types of heating apparatus.

Garage construction is again very active. One hundred and forty-two garages were erected last month at a total cost of \$362,099. This branch of construction has become one of the most active branches of the building industry. The average price of the garages built is \$600, of the one-car type although several larger garages, costing about \$10,000, have been built.

A number of Philadelphia builders are estimating on an addition to the Penn Apartments to be three stories, of brick, stone and steel. Another large permit has been issued for further work of the Frankford "L", costing \$124,000. A Philadelphia contractor has received the contract for erecting a four-story high school in Reading. The exterior surface will be a light-colored brick with trim of terra-cotta and stone. A vaudeville theatre, with a seating capacity of 2,000 to cost \$250,000, is to be built by Abraham Felt in West Philadelphia.

The demand for building bricks improved in general during September and October, more so in Philadelphia than outside the city, but in November and this month, the volume of sales has been falling off. Such a development is to be expected, however, as the building season is drawing to a close, at least builders have their stocks of materials. Practically all sales are for immediate use, although one manufacturer reports that he is booking orders for spring delivery. Operations in yards making common bricks are between 50 and 75 per cent capacity, and manufacturers of face brick are running upon a more reduced basis. Although on the lower grades prices show a tendency to decline, no material reduc-

tions have been reported. Labor is plentiful, but wages have not been lowered recently. Collections have not improved and are still slow.

Refractories also are in less demand than in September and October, which were the best months for trade this year. Finished stocks were reduced during these months, but are now accumulating in some cases, although plants are operating at less than 25 per cent of capacity. Prices of both finished stocks and raw materials are firm and wages are not being cut further. Collections, contrary to conditions among manufacturers of building bricks, have improved and are considered fair.

THE QUAKER.

#### SHORT COURSES IN CERAMIC ENGINEERING AT UNIVERSITY OF ILLINOIS.

The regular biennial two weeks' short course in Ceramic Engineering will be given next January at the University of Illinois, between the dates of January 23 and February 4. The subjects covered will include elementary physics and chemistry; the origin, classification, winning and refining, and testing of clays; the shaping, drying and burning of clay products; bodies and glazes; the technology of glass; refractories and refractory products; kiln construction; coal and gas fuels; engines and boilers, dynamos and motors, equipment control; pyrometry; drafting and reading of drawings; and business law.

The complete program will be ready for distribution early in January and copies may be secured by addressing the Department of Ceramic Engineering, University of Illinois, Urbana, Illinois. The course is open to all who are interested and can be taken to advantage by any one having a common school education.

There are no tuition fees.

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### SAVES

\$9 to \$15 per day

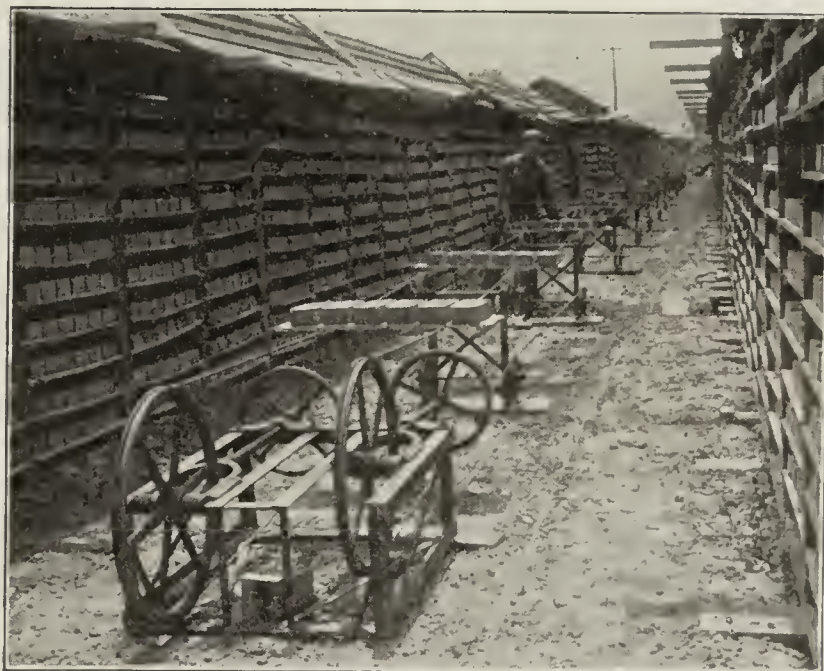
\$54 to \$90 per week

\$215 to \$360 per month

It's worth investigating

Write for catalog  
and long list of  
Satisfied Users

"We Deliver the Goods"



The Conveyor Makes a Turn Without Difficulty. Thus the Brick Are Fed Into Any Section.

Pat. May 2d, 1911

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Chas. J. Anderson & Son, Proprietors.

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the pioneer  
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LET US

help you solve your burning troubles  
and reduce your costs by  
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**FRINK METHOD.**

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DO YOU WANT

**Any Thing Used On  
A Brickyard or a  
Clay Plant.**

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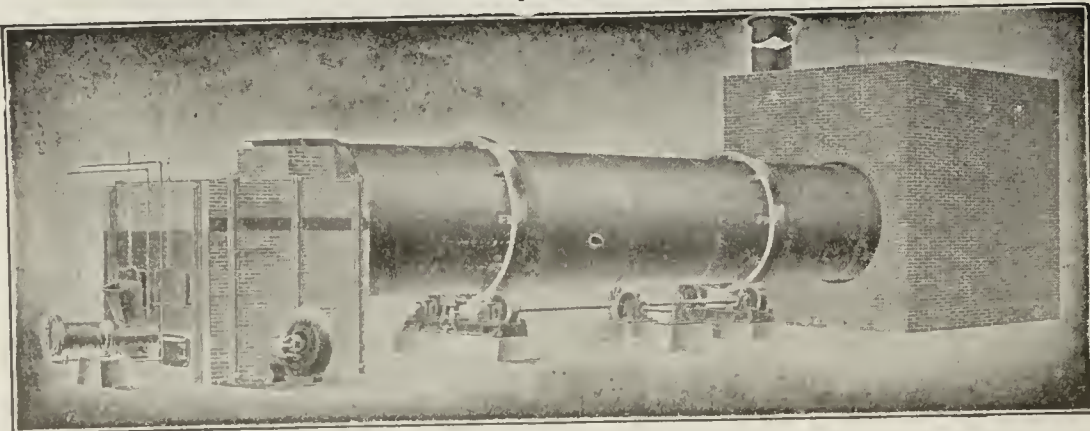
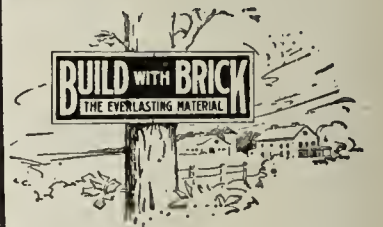
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YOU CAN THEN OPERATE IN ANY  
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YOU CAN THEN SCREEN TO ELIMINATE  
PEBBLES, ETC.

**American Process Co.**

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NEW YORK



# THE CLAY WORKER



## Christmas Greeting

*As we speed the old and hail the new,  
May goodwill come to me and you;  
And as we seek that Guiding Grace  
Which uplifts all the human race,  
Let us think of those whom conflict slew,  
And resolve that each of us will do  
Our part to help make true  
The promise to the human race  
That the earth may be a Godly place,  
And we may live and thrive and do  
As the Great Creator would have us to.*

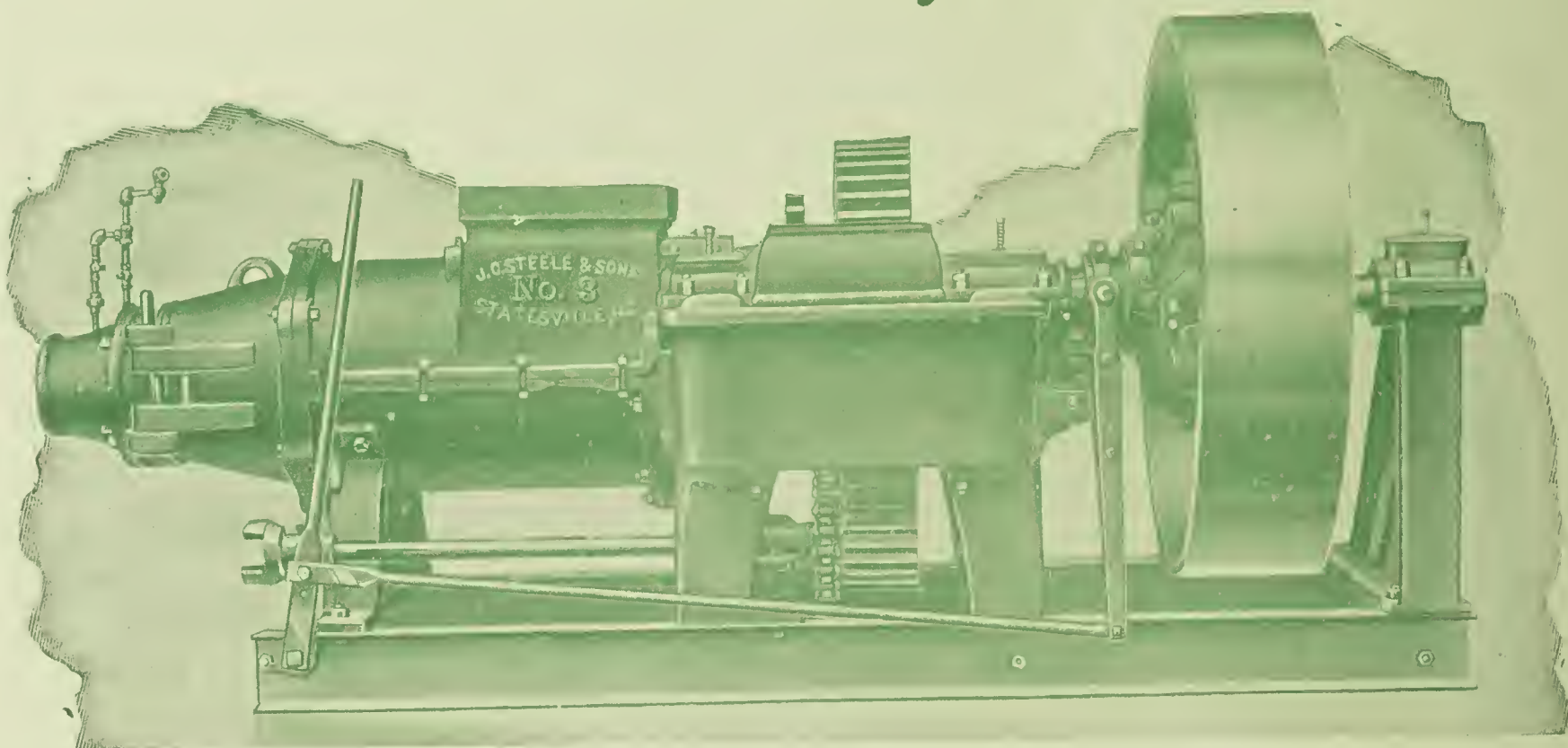
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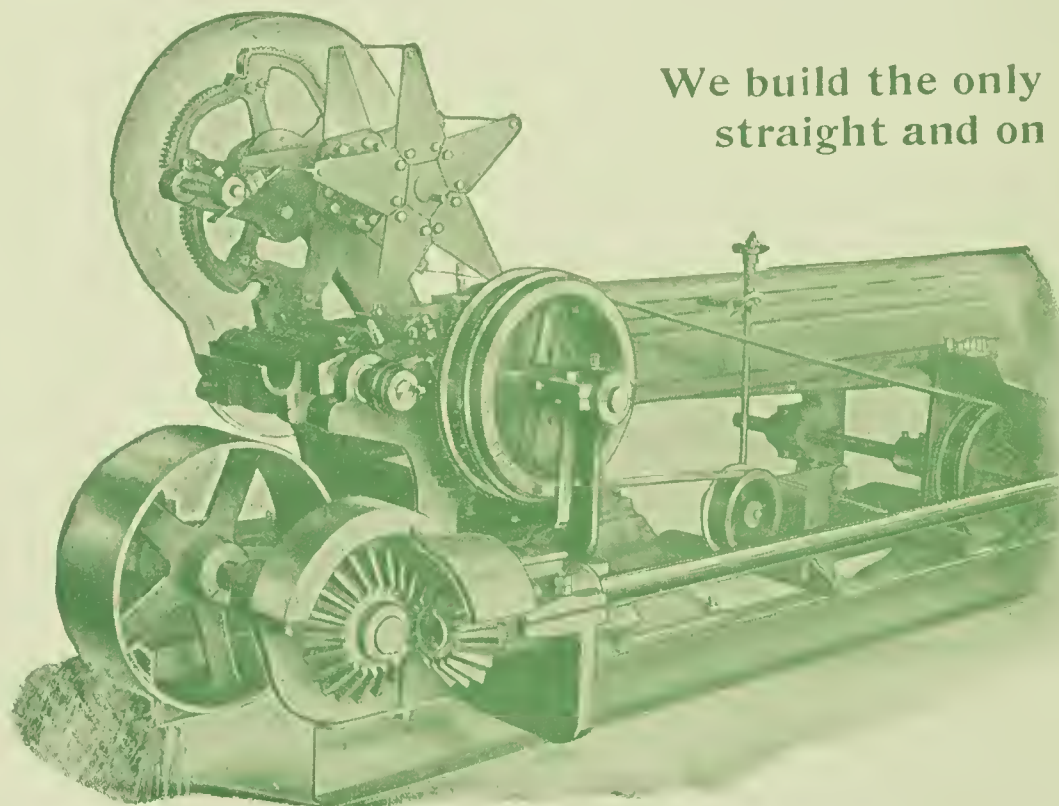
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Our machines for small capacities receive just the same attention as our larger machines. We know the requirements of the small brickmaker by long experience, and have given special attention to simplifying and improving these machines. We think it better policy to carefully consider the necessities of our customers, rather than to load them up with machinery not suited to their conditions. With our machines you are at no disadvantage with the large plants. **Understand we build also equipment for the largest capacities.**



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A machine of improved design—thoroughly tried out and proven in every respect. It will make profits by steady dependable operation.

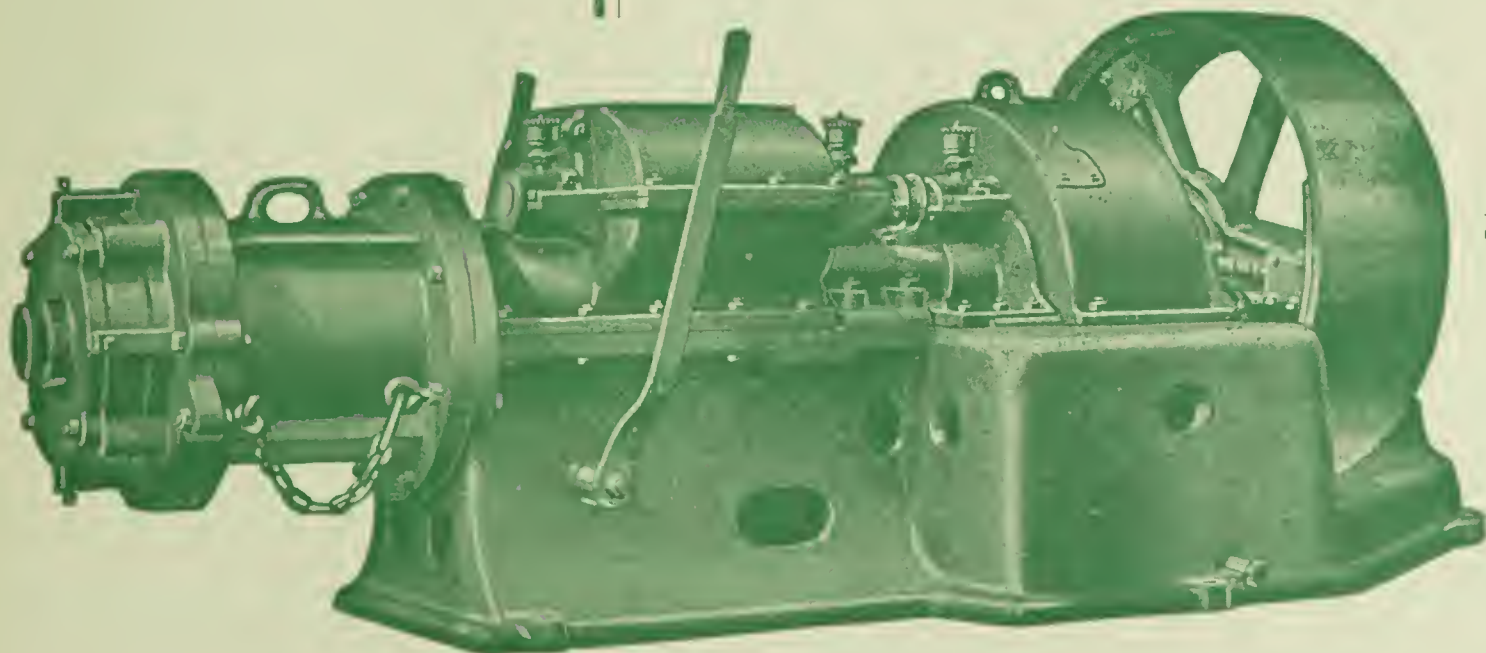
Our bulletin "AP", just issued, describes the new No. 21 in detail. You should have a copy for future use—if you are not in the market at present.

Write Now

## THE BONNOT COMPANY

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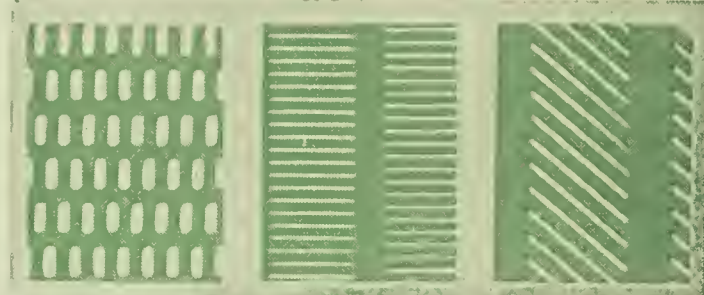
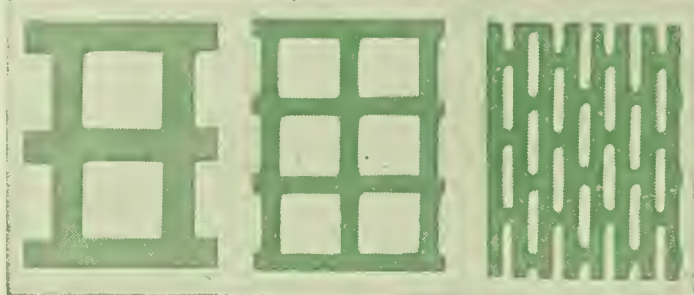
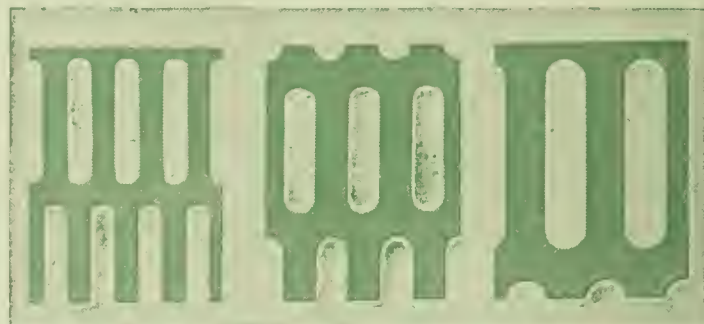
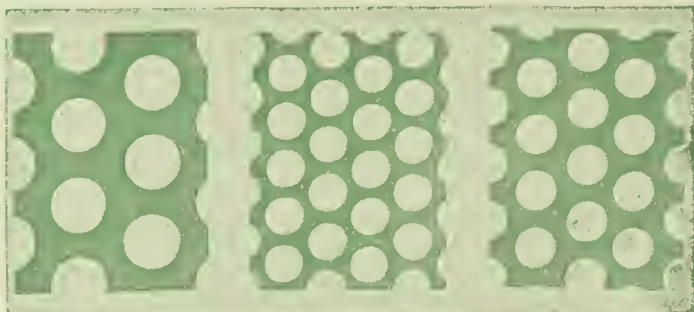
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SPEED ECONOMY  
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L. E. RODGERS ENGINEERING CO.

Waste Heat Dryer Specialists  
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Largest Manufacturers of Brick Drying Equipment in the United States.

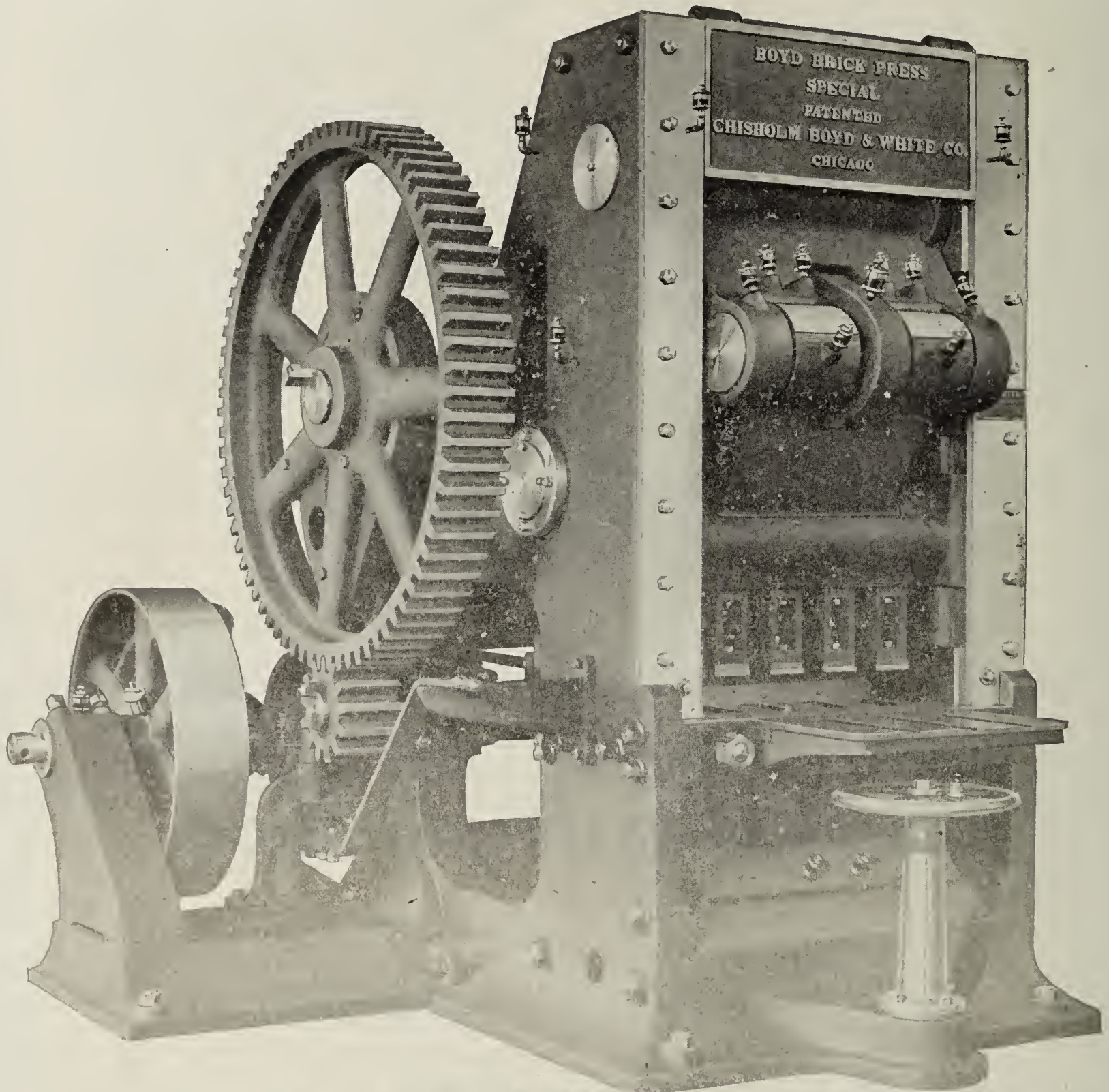
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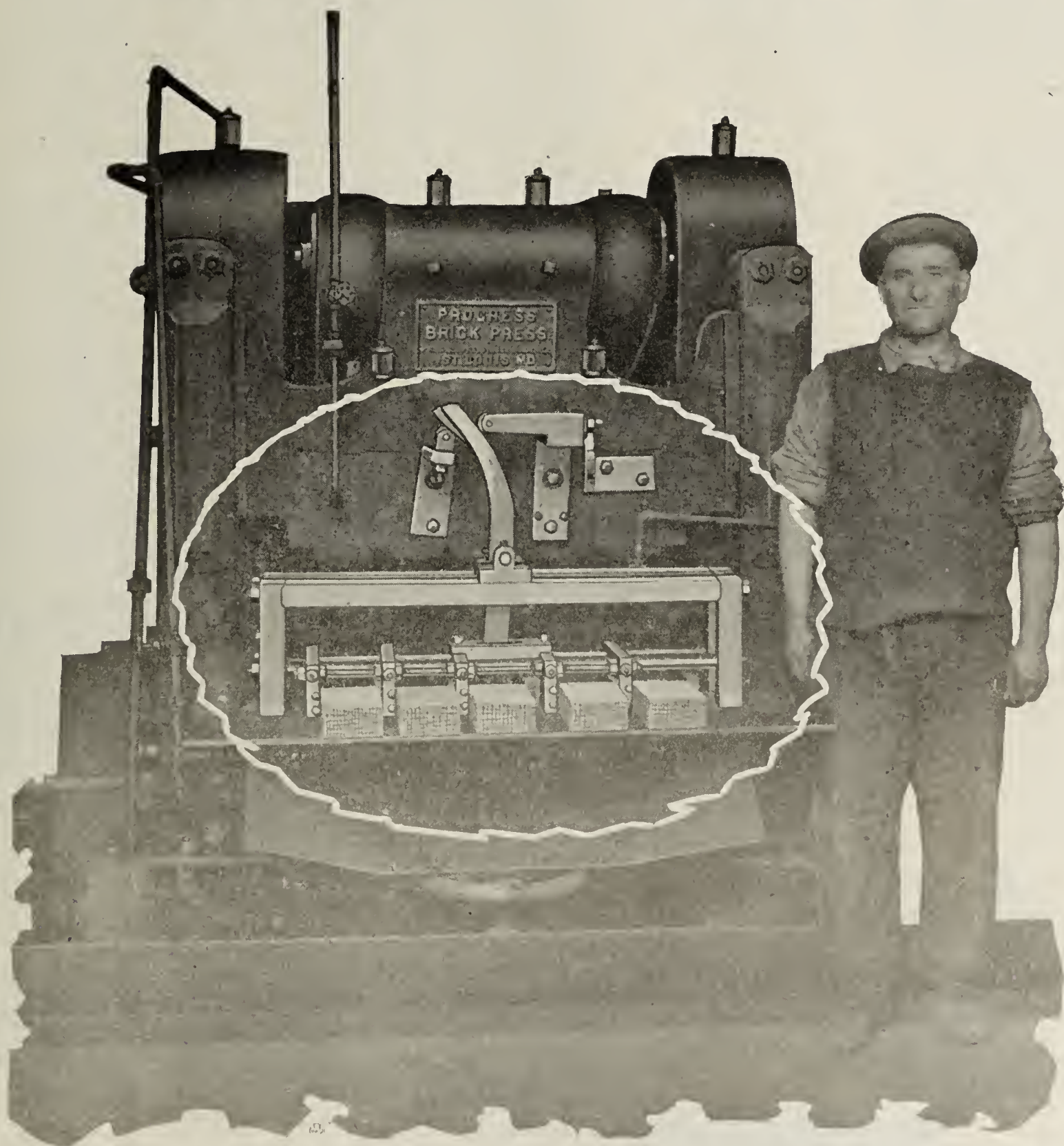
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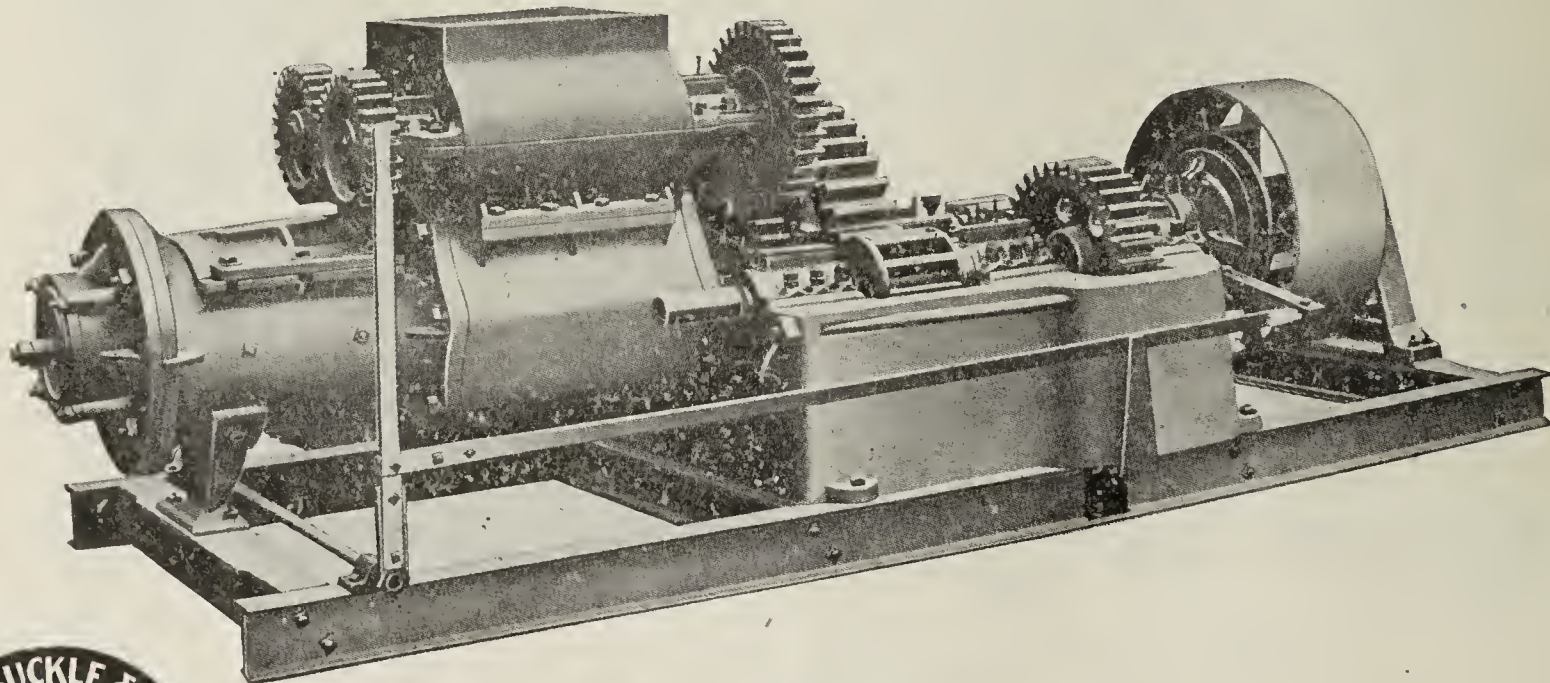
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(Continued on Page 530)

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For Brick and Hollow Ware of All Kinds



## 6-D AUGER MACHINE

Pug Mills, Disintegrators, Crushers, Shale Excavators,  
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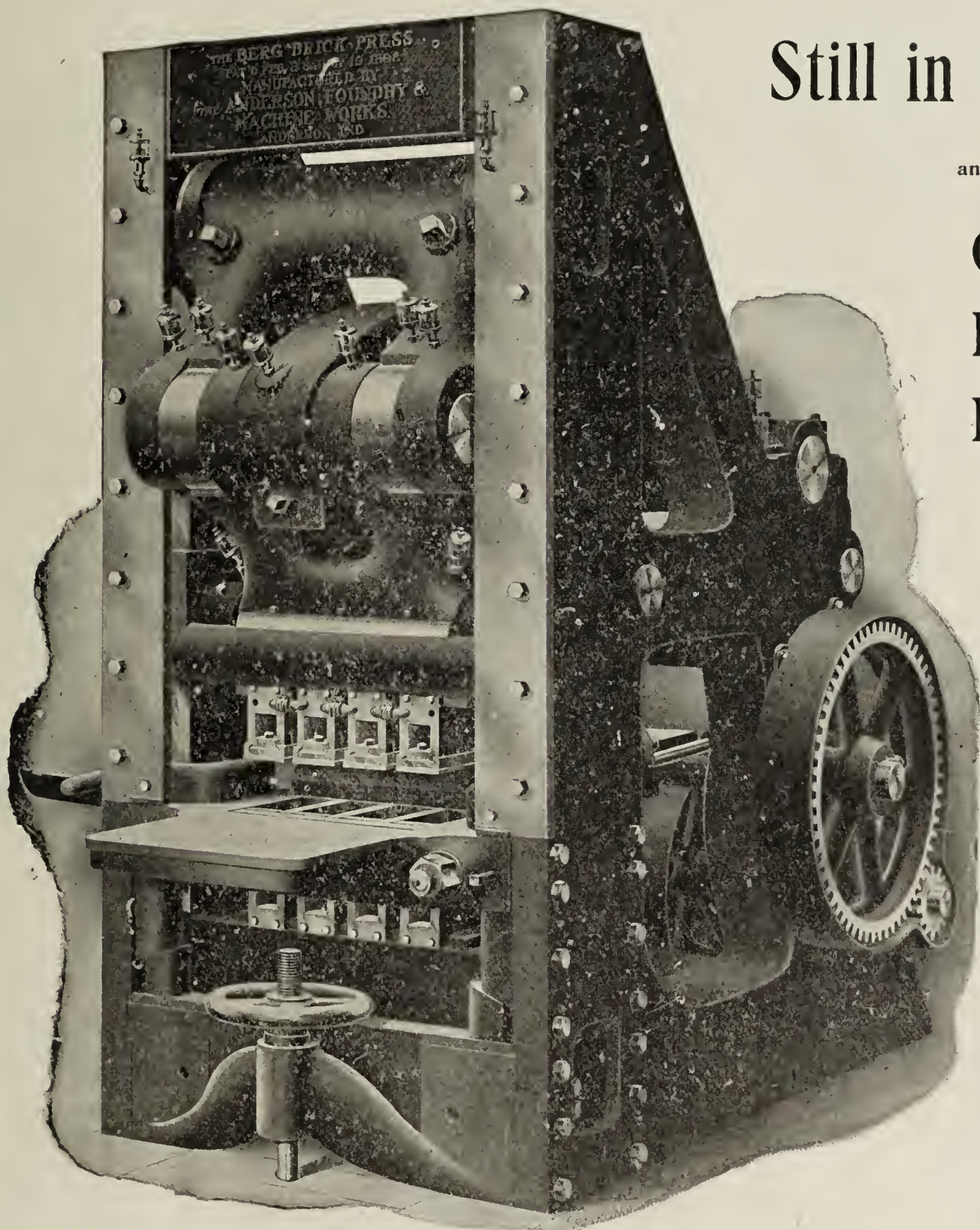
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(Continued on Page 532)

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Helical gearing, because of the nature of its design and operation, absorbs shocks and vibrations and assures silent operation.

The result is a longer life for the machinery and better working conditions—both of which stimulate efficient operation and production.

The Nuttall Company was the first concern to develop helical gearing. Its experience and facilities for manufacturing high grade helical gearing for the brick industry challenge comparison.

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# Nuttall

Mention THE CLAY-WORKER.



# TOUGHNESS—or *nothing!*

A Conveyor Belt is either *tough—all the way through*—or it is practically worthless.

You want toughness—or *nothing*.

Because toughness alone will resist wear from abrasion, rotting from the effects of heat, water, steam.

If you *get* toughness, you aren't concerned about *how* a belt is made, *where* it is made, *who* makes it, or what is made of.

\* \* \*

That's the basis upon which we sell LEVIATHAN Conveyor Belts.

We don't make a point of how, where, who or what—we simply say they're *tough*, and let it go at that. For that's the only important point.

\* \* \*

LEVIATHAN Conveyors are tough for two reasons:

First, because they are Tensated. Tensation is an exclusive process which makes LEVIATHAN *dense*—so dense that it retains its body mile after mile, so dense that it is almost impossible for abrasive particles to work their way into its fibres.

Second, because they are impregnated with a material so remarkable in its composition that no one has ever been able to imitate it. A material which won't crack in the cold, won't melt in heat, resists acids and steam, and yet is always flexible and never sticky.

So, for *toughness*—LEVIATHAN.

\* \* \*

Roller equipment is extremely important in setting up a conveyor.

*Any* conveyor will last longer with MAIN ADJUSTABLE CONVEYOR ROLLERS. LEVIATHAN Conveyors and MAIN Rollers make a thoroughly efficient unit.



Let us send you our booklet on "Conveyor Problems and Their Solution."

MAIN BELTING COMPANY, Philadelphia

New York

Chicago

Pittsburgh

San Francisco

MAIN BELTING COMPANY OF CANADA, Ltd., Montreal.

## Leviathan and Anaconda Belts

TENSATED TO REMOVE STRETCH

Mention THE CLAY-WORKER.



## Buyers Ready Reference List—Continued.

**Draft Gauges.**  
Brown Instrument Co.  
Ceramic Supply & Con. Co.  
Engelhard, Charles  
Frink Pyrometer Co.  
Thwing Instrument Co.

**Drag Line Excavators.**  
Ball Engine Co.

**Drain Tile Machinery.**  
(See Brick & Tile Machinery.)  
Drums, Hoisting and Winding.  
(See Supplies.)

**Dryers.**  
American Process Co.  
Boss Co., John C.  
Fate-Root-Heath Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Lancaster Iron Works  
Manufacturers' Equipment Co.  
Proctor & Schwartz  
F. H. Robinson  
Rodgers Engr. Co., The L. E.  
Standard Dry Kiln Co., The  
Trautweln Dryer & Eng. Co.  
Webster, H., & Sons

**Dryer Cars.**  
Arbuckle & Co.  
Chambers Bros. Co.  
Chase Fdy. & Mfg. Co.  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Lancaster Iron Works  
Manufacturers' Equipment Co.  
Potts & Co., C. & A.  
F. H. Robinson  
Rodgers Engr. Co., The L. E.  
Standard Dry Kiln Co., The  
Steele & Sons, J. C.

**Trautweln Dryer & Eng. Co.**  
Weller Mfg. Co.

**Dry and Wet Pans.**  
Anderson Fdy. & Mach. Works  
Arbuckle & Co.  
Bonnot Co., The  
Brewer & Co., H.  
Chambers Bros. Co.  
Chicago Brick Machinery Co.  
Chisholm, Boyd & White Co.  
Eagle Iron Works  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Frost Mfg. Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Lancaster Iron Works  
Manufacturers' Equipment Co.  
Phillips & McLaren Co.  
The Stevenson Co.

**Dump and Clay Cars.**  
Arbuckle & Co.  
Brewer & Co., H.  
Chambers Bros. Co.  
Chase Fdy. & Mfg. Co.  
Eastern Brick Machinery Co.  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Lancaster Iron Works  
Manufacturers' Equipment Co.  
Potts & Co., C. & A.  
F. H. Robinson  
Steele & Sons, J. C.  
Weller Mfg. Co.

**Electric Shovels.**  
Ball Engine Co.

**Electrical Furnaces.**  
Brown Instrument Co., The

**Electrical Locomotives.**  
Arbuckle & Co.  
Westinghouse Elec. & Mfg. Co.

**Electrical Supplies.**  
Hadfield-Penfield Steel Co.  
Westinghouse Elec. & Mfg. Co.

**Elevating Equipment.**  
(See Conveyors.)

**Engines.**  
Arbuckle & Co.  
Ball Engine Co.  
Carnell, Geo.  
Chambers Bros. Co.  
Frost Mfg. Co.  
International Clay Mach'y Co.

**Excavating Machinery.**  
Ball Engine Co.  
Bay City Dredge Co.

**Fans.**  
Hadfield-Penfield Steel Co.  
International Clay Mach'y Co.  
Manufacturers' Equipment Co.  
Rodgers Engr. Co., The L. E.

**Feed Water Heaters.**  
Arbuckle & Co.  
Frost Mfg. Co.  
Hadfield-Penfield Steel Co.  
Standard Dry Kiln Co.

**Filter Presses.**  
Bonnot Co., The  
Crossley Machine Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.

**Fire Brick and Fire Clay.**

Parker-Russell M. & M. Co.

**Flower Pot Machinery.**

Crossley Machine Co.

**Friction Clutch Pulleys.**  
(See Supplies.)

**Furnaces.**  
Brown Instrument Co., The  
Lancaster Iron Works

**Furnace Insulation.**  
Cellite Products Co.

**Gas Fire Continuous Kilns.**  
International Clay Mach'y Co.  
Manufacturers' Equipment Co.

**Gears.**  
Nuttall Co., R. D.

**Generators.**  
Westinghouse Elec. & Mfg. Co.

**Grading Machinery.**  
Ball Engine Co.

**Grates.**  
Arbuckle & Co.  
Hadfield-Penfield Steel Co.  
Manufacturers' Equipment Co.  
Marlon Mach., Fdy. & Sup. Co.  
Potts & Co., C. & A.

**Gravity Carriers.**  
Mathews Gravity Carrier Co.

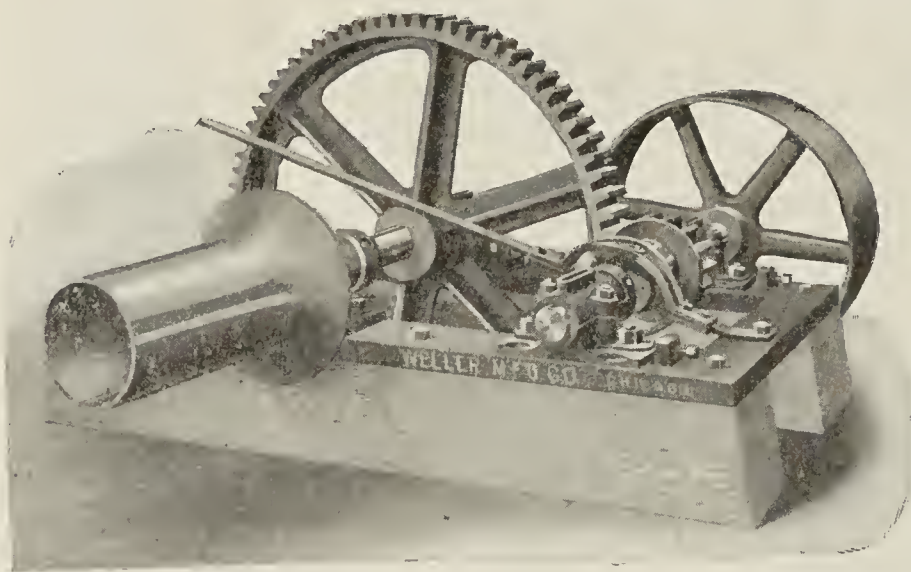
**Gravity Haulage.**  
Hadfield-Penfield Steel Co.  
The Stevenson Co.

**Hand-Power Presses.**  
Carnell, Geo.  
Crossley Machine Co.  
Fate-Root-Heath Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.

**Heat Insulation.**  
Cellite Products Co.

(Continued on Page 534)

## DO THE WORK MECHANICALLY WITH WELLER MADE MACHINERY



### CAR PULLERS

Fully described in Catalogue 35-K  
sent on request.



### We Design and Make

|                                   |                        |
|-----------------------------------|------------------------|
| Apron Conveyors                   | Weller Made Chain      |
| Belt Conveyors                    | Heavy Sheet Metal Work |
| Bucket Conveyors                  | Steel Hoppers          |
| Drag Conveyors                    | Feeders                |
| Pan Conveyors                     | Pulleys, Hangers       |
| Spiral Conveyors                  | Collar Oiling Bearings |
| Bucket Elevators                  | Friction Clutches      |
| Elevator Buckets                  | Oil Burners            |
| Coal and Ashes Handling Equipment |                        |

Tell us the equipment you are interested in.  
Special catalogue will be sent.

# WELLER MFG. CO.

Main Office and Works, 1820-1856 N. Kostner Ave., Chicago, Ill.

#### BRANCHES

New York    Boston    Baltimore    Pittsburgh    Salt Lake City    San Francisco



# A Financier and Builder Who'll Address Your Convention

*Annual Meeting of the Common Brick Manufacturers' Association of America, to be held at St. Louis, Mo., Hotel Statler, January 30, 31 and February 1, 1922*



JOSIAH KIRBY  
President of the Cleveland Discount Company  
Cleveland, Ohio

You'll find that it will actually *pay* you to come to this important convention.

The program is of unusual interest, value and profit. You can not fail to benefit by the inspiring and helpful talks that will be given.

One of the speakers of national prominence is Josiah Kirby, President of the Cleveland Discount Company.

The fact that Mr. Kirby heads the second largest mortgage company in the world is in itself sufficient to assure the interest of brick men. And his talk on financing and building will be very close to their hearts.

Few men in the United States have loaned as many millions of dollars for construction as has Mr. Kirby. The Cleveland Discount Company is not a local concern. It has branches in nearly every important city in the United States and is rapidly adding to its field of operations.

This financier and builder will bring to the brick men a message about the construction outlook for 1922 based upon experience and authority which give it most unusual importance.

Many brick men will find themselves amply repaid for attending the convention, by this talk alone.

In addition there are addresses by several other prominent men. The convention will fairly bristle with practical business building ideas. The four business sessions will be snappy and will prove decidedly profitable to every brick man attending. The rousing good times will long be remembered.

Even if you have to borrow money—*come!* And bring the ladies!

R. P. Stoddard, Sec'y-Mgr.

THE COMMON BRICK MANUFACTURERS'  
ASSOCIATION OF AMERICA  
1322 Schofield Bldg., CLEVELAND, OHIO

*P. S.—Let us make your hotel reservations at once*

## The Brick Man's Opportunity

*Hotel Statler  
St. Louis*

*Opening Session  
Monday, January 30,  
2 P. M.*

*Business Session  
Tuesday, January 31,  
10 A. M. to 2 P. M.*

*Informal dinner  
Tuesday, 7 P. M.*

*Business Session  
Wednesday, Feb. 1,  
10 A. M.*

*Special events for the ladies.*



## Buyers Ready Reference List—Continued.

### Hollow Brick Machinery.

Arbuckle & Co.  
Bonnot Co., The  
Brewer Co., H.  
Chambers Bros. Co.  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Manufacturers' Equipment Co.  
F. H. Robinson  
The Stevenson Co.  
Wallace Mfg. Co.

### Insulating Materials.

Celite Products Co.

### Kilns.

Boss Co., John C.  
International Clay Mach. Co.  
Richardson, W. D.  
Rodgers Engineering Co., L. E.  
Russell Engineering Co.  
Trautwein Dryer & Eng. Co.  
Webster, H., & Sons

### Kilns, Doors, Castings and Frames.

(See Supplies.)

### Kiln Insulation.

Celite Products Co.

### Knives.

(See Supplies.)

### Locomotives.

Fate-Root-Heath Co.

### Manganese.

National Paint and Manganese Co.  
Hy-Grade Manganese Co.

### Mechanical Draft.

Boss, J. C.  
Hadfield-Penfield Steel Co.  
Manufacturers' Equipment Co.  
Trautwein Dryer & Eng. Co.

### Mineral Paint.

(See Coloring Materials.)

### Molds (Brick).

Carnell, Geo.  
Eastern Brick Machinery Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach'y Co.  
Potts & Co., C. & G.

### Mold Sanders.

Carnell, Geo.  
Eastern Brick Machinery Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Lancaster Iron Works.  
Potts & Co., C. & G.  
Wallace Mfg. Co.

### Motors.

Westinghouse Elec. & Mfg. Co.

### Motor Trucks

Fate-Root-Heath Co.

### Oil Burners.

Lancaster Iron Works.  
Schurs Oil Burner Co.

### Pallets.

Ohio Galvanizing & Mfg. Co.  
F. H. Robinson

### Pans (Dry and Wet).

(See Dry and Wet Pans.)

### Paving Brick or Block.

(See Brick.)

### Perforated Sheet Metal

Harrington & King Perf. Co.  
F. H. Robinson

### Portable Track.

Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Manufacturers' Equipment Co.  
F. H. Robinson

### Pottery Machinery.

Fate-Root-Heath Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.

### Power Plant Equipment.

Arbuckle & Co.  
Hadfield-Penfield Steel Co.  
Rodgers Engr. Co., The L. E.  
Trautwein Dryer & Eng. Co.  
Weller Mfg. Co.

### Presses.

(See Brick Machines, also Sewer Pipe Machinery, also Roofing Tile Machinery.)

### Pug Mills

Anderson Fdy. & Mach. Works.  
Arbuckle & Co.  
Bonnot Co., The  
Brewer & Co., H.  
Carnell, Geo.  
Chambers Bros. Co.  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Lancaster Iron Works  
Manufacturers' Equipment Co.  
Potts & Co., C. & G.  
F. H. Robinson  
Steele & Sons, J. C.  
The Stevenson Co.  
Toronto Foundry & Mach. Co.  
Wallace Mfg. Co.  
The Wellington Machine Co.

### Pulverizers.

Arbuckle & Co.  
Bonnot Co., The  
Fate-Root-Heath Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach'y Co.  
Manufacturers' Equipment Co.  
The Stevenson Co.  
Williams Pat. Crusher & Pulv.

### Pyrometers.

Brown Instrument Co.  
Engelhard, Charles  
Frink Pyrometer Co.  
Rodgers Engr. Co., The L. E.  
Thwing Instrument Co., The

### Rails and Railway Equipment.

Ball Engine Co.  
Fate-Root-Heath Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach'y Co.  
Richardson & Co.  
Zelnicker Supply Co., W. A.

### Rattlers (Paving Brick).

Freese & Co., E. M.  
Hadfield-Penfield Steel Co.  
Phillips & McLaren Co.  
F. H. Robinson

### Represses.

Arbuckle & Co.  
Bonnot Co., The  
Carnell, Geo.  
Chambers Bros. Co.  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
F. H. Robinson

### Revolution Indicators.

Brown Instrument Co.  
Engelhard, Charles  
Thwing Instrument Co.

### Revolving Steam Shovels.

Ball Engine Co., The  
Hadfield-Penfield Steel Co.

### Road Graders.

Ball Engine Co., The

### Rock Crushers.

Hadfield-Penfield Steel Co.  
International Clay Mach'y Co.  
Manufacturers' Equipment Co.  
Phillips & McLaren Co.  
F. H. Robinson  
The Stevenson Co.

### Roofing Tile Machinery.

Fate-Root-Heath Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.

### Rotary Dryers.

American Process Co.  
Anderson Fdy. & Mach. Works.  
Bonnot Co., The  
Fate-Root-Heath Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Lancaster Iron Works  
Weller Mfg. Co.

### Sand Dryer and Sand Sieves.

American Process Co.  
Hadfield-Penfield Steel Co.  
Lancaster Iron Works.

### Sand Lime Brick Machinery.

Anderson Fdy. & Mach. Works  
Ceramic Supply & Con. Co.  
Chisholm, Boyd & White Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.

### Scrapers, Plows and Clay Gatherers.

Eagle Iron Works

### Screens.

Arbuckle & Co.  
Brewer & Co., H.  
Bonnot Co., The  
Carnell, Geo.  
Chambers Bros. Co.  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Hadfield-Penfield Steel Co.  
Harrington & King Perf. Co.  
International Clay Mach. Co.  
Manufacturers' Equipment Co.  
F. H. Robinson  
The Stevenson Co.  
W. S. Tyler Co.  
Weller Mfg. Co.

### Sewer Digging Machines.

Ball Engine Co.

### Separators.

W. S. Tyler Co.

### Sewer Pipe Machinery.

Brewer & Co., H.  
Hadfield-Penfield Steel Co.  
International Clay Mach'y Co.  
The Stevenson Co.  
Taplin-Rice-Clerkin Co.  
Toronto Foundry & Mach. Co.

### Shale Planers.

Arbuckle & Co.

### Stacks.

Lancaster Iron Works.

### Steam Shovels.

Ball Engine Co.  
Hadfield-Penfield Steel Co.  
Frost Mfg. Co.  
Hadfield-Penfield Steel Co.  
Standard Dry Kiln Co.  
Trautwein Dryer & Eng. Co.

### Steam Traps.

Frost Mfg. Co.  
Hadfield-Penfield Steel Co.  
Standard Dry Kiln Co.  
Trautwein Dryer & Eng. Co.

### Steel Pallets.

Ohio Galvanizing Co.  
F. H. Robinson  
Supplies.

Anderson Fdy. & Mach. Works  
Arbuckle & Co.  
Bonnot Co., The  
Brewer & Co., H.  
Carnell, Geo.

Chambers Bros. Co.  
Chase Fdy. & Mfg. Co.  
Chicago Brick Machinery Co.  
Chisholm, Boyd & White  
Eastern Brick Machinery Co.  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Frost Mfg. Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Potts & Co., C. & G.  
Lancaster Iron Works.  
Manufacturers' Equipment Co.  
F. H. Robinson  
Steele & Sons.  
Toronto Foundry & Mach. Co.  
Wallace Mfg. Co.  
Weller Mfg. Co.

### Switches.

F. H. Robinson

### Tanks and Towers.

Lancaster Iron Works.  
Weller Mfg. Co.

### Tempering Wheels.

Carnell, Geo.

### Testing Sieves and Shakers.

W. S. Tyler Co.

### Thermometers.

Brown Instrument Co.  
Engelhard, Charles  
Frink Pyrometer Co.  
Rodgers Engr. Co., The L. E.  
Thwing Instrument Co.  
Trautwein Dryer & Eng. Co.

### Tile Machines.

Anderson Fdy. & Mach. Works  
Arbuckle & Co.  
Arnold Creager Co.  
Bonnot Co., The  
Brewer & Co., H.  
Crossley Machine Co.  
Fate-Root-Heath Co.  
Freese & Co., E. M.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Manufacturers' Equipment Co.  
Potts & Co., C. & G.  
F. H. Robinson  
The Stevenson Co.  
Wallace Mfg. Co.

### Time Recorder

Brown Instrument Co.  
Engelhard, Charles  
Thwing Instrument Co.

### Tracks and Switches.

(See Rails.)

Transfer Cars and Turn Tables.  
(See Supplies.)

### Trench Machines.

Ball Engine Co.

### Turn Tables.

Bonnot Co., The  
Hadfield-Penfield Steel Co.  
F. H. Robinson

### Unloading Device for Pans.

Frost Mfg. Co.  
Hadfield-Penfield Steel Co.  
International Clay Mach. Co.  
Manufacturers' Equipment Co.  
The Stevenson Co.

### Voltmeters.

Brown Instrument Co.  
Engelhard, Charles.  
Thwing Instrument Co.  
Westinghouse Elec. & Mfg. Co.

### Wattmeters.

Westinghouse Elec. & Mfg. Co.

### Wheelbarrows.

(See Barrows.)

### Wire Cloth.

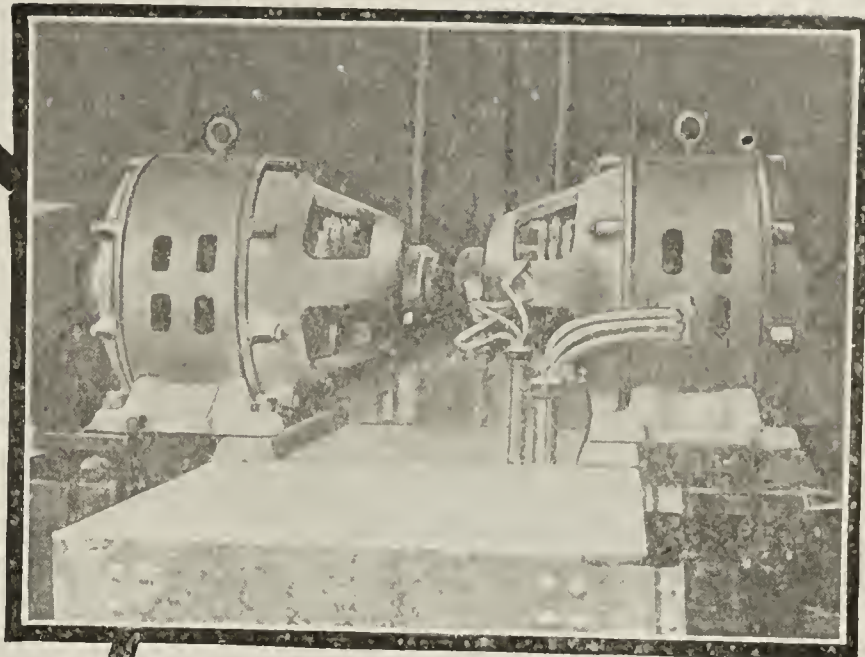
W. S. Tyler Co.

### Wet Pans.

(See Pans.)



# Reduce Power Expenses



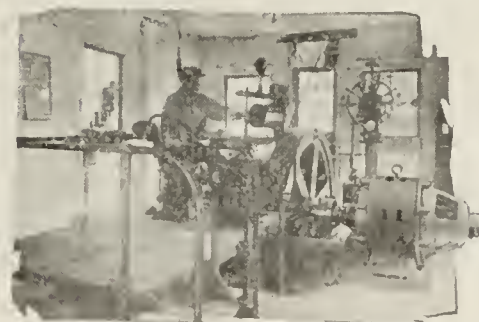
Two 75 hp. Westinghouse  
CW Motors  
Driving Wet Pans



30 hp. Westinghouse CW Motor Driving Crusher



200 hp. Westinghouse CW Motor Driving Line Shaft



100 hp. Westinghouse CW Motor Driving Hoist

## Electrically

An analysis of the comparative cost of electric power and steam power was made in a number of brick plants. In most cases it was found that the cost of steam power would exceed that of electric power.

The most successful brick plants in the world use electric power *exclusively*. Many of these plants are equipped, throughout, with Westinghouse electric power equipment.

Westinghouse engineers will gladly assist you in reducing your power bills to a minimum.

**Westinghouse Electric & Manufacturing Co.**

East Pittsburgh, Pa.

Offices in all Principal American Cities.

# Westinghouse

Mention THE CLAY-WORKER.



# PAVE WITH BRICK

Be a Booster for Brick Streets and Brick Paved Highways  
Get a Miniature Pave With Brick Sign. T.A. Randall & Co., Indianapolis, Ind.

## MEDAL

Repressed and Wire Cut Lug Paving Brick  
The block with experience and service behind it.  
**THE MEDAL PAVING BRICK CO.**  
Cleveland, Ohio

## ALTON BRICK COMPANY

Makers of High Quality Brick for  
**Roadways and Permanent Buildings.**  
Repressed and Wire-Cut-Lug Block.  
ALTON, ILLINOIS

PAVING BUILDING • BRICK AND BLOCK • SIDEWALK FOUNDATION

## The Barr Clay Co.

C. C. BARR, Pres., Streator, Ill.

OXBLOOD RED FRONT BRICKS  
DEVONSHIRES and REPRESSED

## KUSHEQUA

Highly Vitrified by Natural Gas.  
Tough Paving Blocks, Beautiful in Color and Finish.  
KUSHEQUA BRICK CO., Kushequa, Pa.

## McAVOY VITRIFIED BRICK COMPANY

PHILADELPHIA, PA.  
"McAVOY BLOCK"

## PROMENADE TILE

Chocolate Red  
Highest Vitrification—Lowest Absorption.  
BEST BY TEST.  
KUSHEQUA KERAMIC COMPANY.  
Kushequa, Pa.

## COMMON Hard Burned Shale BUILDING BRICK

Large Capacity  
Prompt Shipment

## The Burton-Townsend Co.

Zanesville, Ohio  
ZANESVILLE—Plants—ASHTABULA

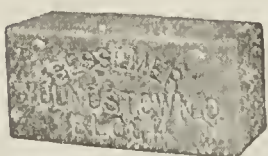
## DOVER FIRE BRICK CO.

Cleveland, Ohio  
Manufacturers of Highest Quality  
Pennsylvania Ohio Missouri  
FIRE BRICK GROUND FIRE CLAY  
Brands: Farber, Mo. High Grade  
North Bend Dover Buckeye

## Best Paving Brick Made



DAILY  
CAPACITY  
1,000,000  
BRICK



The Metropolitan Paving Brick Co.  
CANTON, OHIO

## JOHN BOYLE, JR.

Attorney-at-Law

## PATENTS

Ouray Building,  
Washington, D. C.

16 years on the examining corps  
of the United States Patent  
Office.



**C. P. MAYER BRICK CO.**  
BRIDGEVILLE, PA.



The Mayer Block is guaranteed to be free from lamination, and equal to the best.

**Murphysboro Paving  
Brick Company**

Manufacturers of

**The Celebrated  
EGYPTIAN PAVING BLOCK**

The Block That Stands the Test.

Prices and samples furnished  
upon application.

**MURPHYSBORO, ILL.**

**VITRIFIED PAVING BRICK**

A valuable treatise on the manufacture and use of Paving Brick up to date. By H. A. Wheeler, E. M. Second edition.

Mailed to any address on  
receipt of \$2.00.

**T. A. Randall & Co. (Inc.) Publishers**  
Indianapolis

PURINGTON PAVERS  
ARE MADE OF

**G ALESBUR G  
SHALE**

**PURINGTON PAVING BRICK CO.**  
GALESBURG, ILL.

Have  
You  
Something  
To  
Sell  
?

**PLACE  
A SMALL AD  
IN THE  
CLAY-WORKER.**

You will be surprised  
how quickly you will  
make the sale or the  
purchase.

It Costs But 35 Cents The Line  
See Page 601.

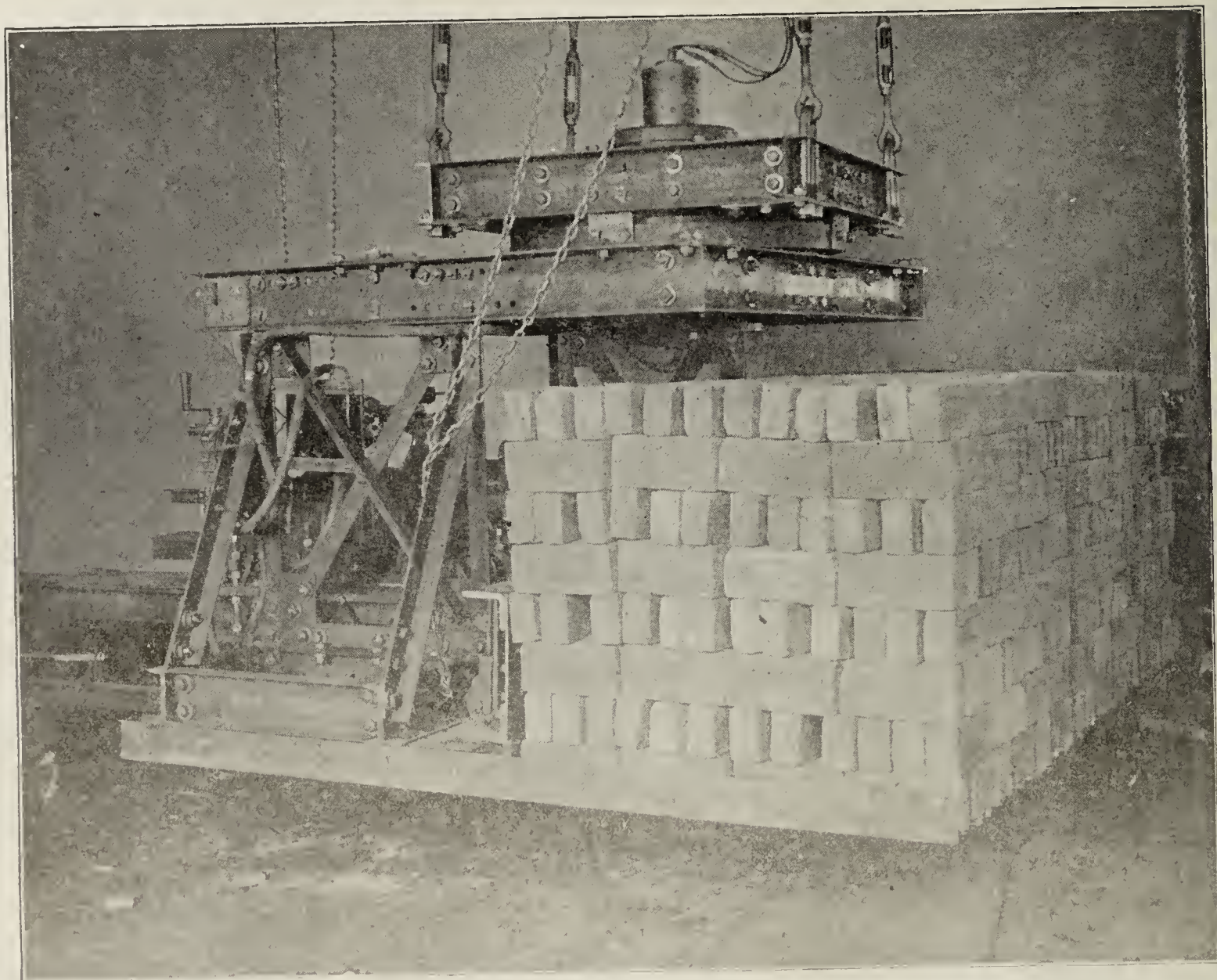
Are You  
In The  
Market  
For  
Second  
Hand  
Machinery  
Or  
Equipment



# A Limited Number Will be Sold Outright for \$6,600

F. O. B. Little Rock, Ark.

THE DICKINSON BRICK SETTING MACHINE will save you time and labor. This machine can easily be furnished for any size brick or dryer car capacity.



This photograph shows the brick raised from the dryer car by the setting machine and the car removed. This unit is now ready to be moved into position in the kiln. The uniform position of the lower course in the fingers is clearly shown at the right of the photograph.

This machine will set any brick that are dry enough to stand up as they pass through the dryer.

## THE DICKINSON BRICK SETTING MACHINE

W. W. Dickinson, Jr.

1612 Battery St., Little Rock, Ark.

This machine is fully protected by patents and by additional patents pending.

The many merits of this machine can not be told in a single page. Let us send you detailed information.



# The Manufacture of Building Tile

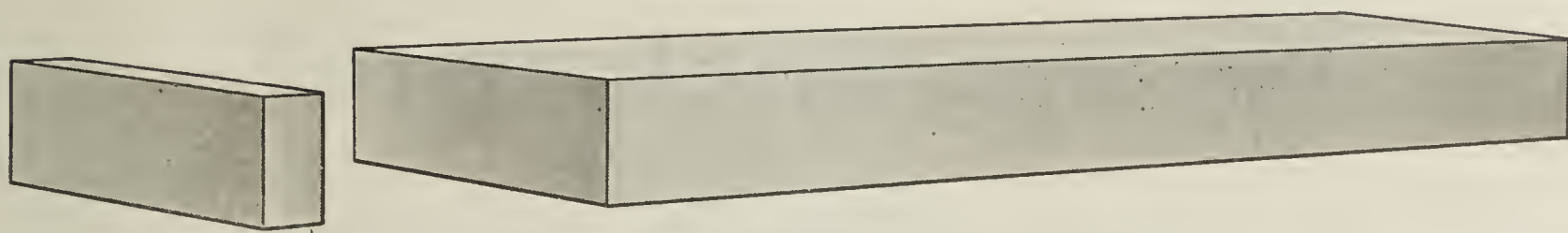
## With the Aid of

# Chambers Brothers Co.'s Machinery

## No. 5C Rotary Cutter

Runs Continuously      Has Great Flexibility  
Adaptable to

Building Tile    Chimney Block    Denison Tile  
And Various Forms of Interlocking Tile, Hollow Clay Ware,  
Fire Brick and Paving Block



No. 5C will cut a slab 2 inches thick, or a block 32 inches long.

It will cut any size of clay-bar from one having cross section and weight sufficient to secure speed regulation as a minimum, up to the maximum sizes enumerated—

With 17 in. width, or less, as much as  $8\frac{1}{2}$  in. height.

With 13 in. width, or less, as much as 9 in. height.

With 15 in. width, or less, as much as  $8\frac{3}{4}$  in. height.

With 11 in. width, or less, as much as  $9\frac{1}{4}$  in. height.

With  $9\frac{3}{4}$  in. width, or less, as much as  $9\frac{3}{4}$  in. height.

From any clay-bar within these limits, of cross section the **Number 5C Cutter** will cut any slab or block from 2 inches thickness up to 32 inches length, eight wires being employed for the thin slabs, and one wire only on the reel for the longest block.

The Reel is spaced for 8 wires equi-distant, and on that spacing the desired product may be cut with 8, 4, 2, or even 1 wire. The Reel is also spaced for 6 wires equi-distant, and on this spacing 6, 3, 2, or 1 wire may be used.

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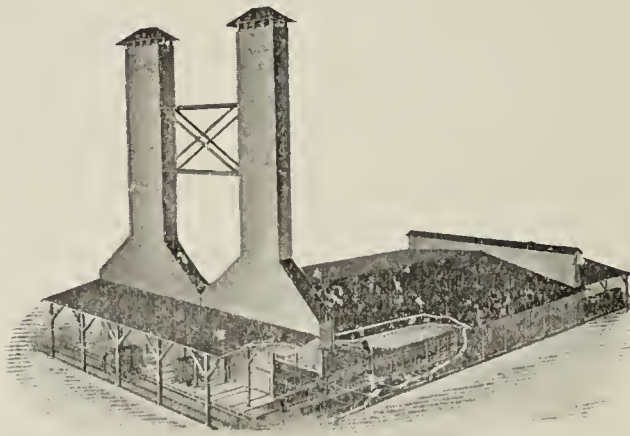




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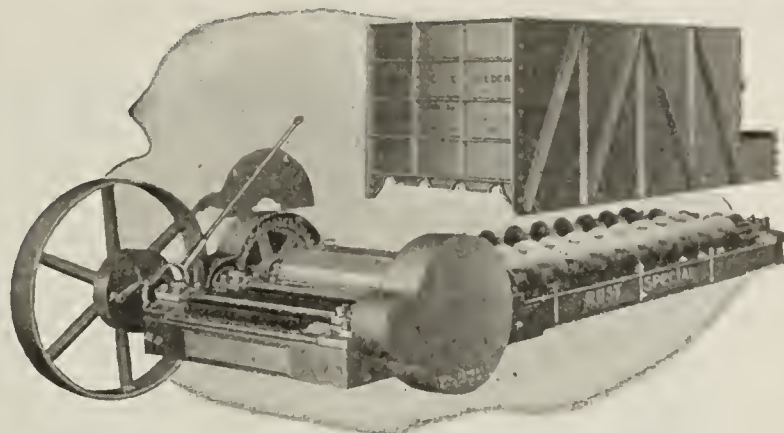






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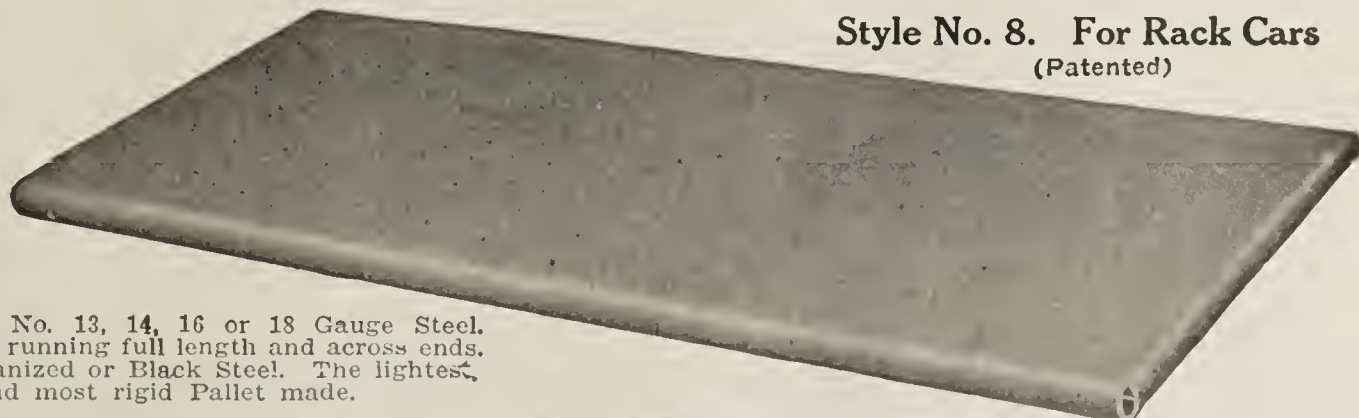
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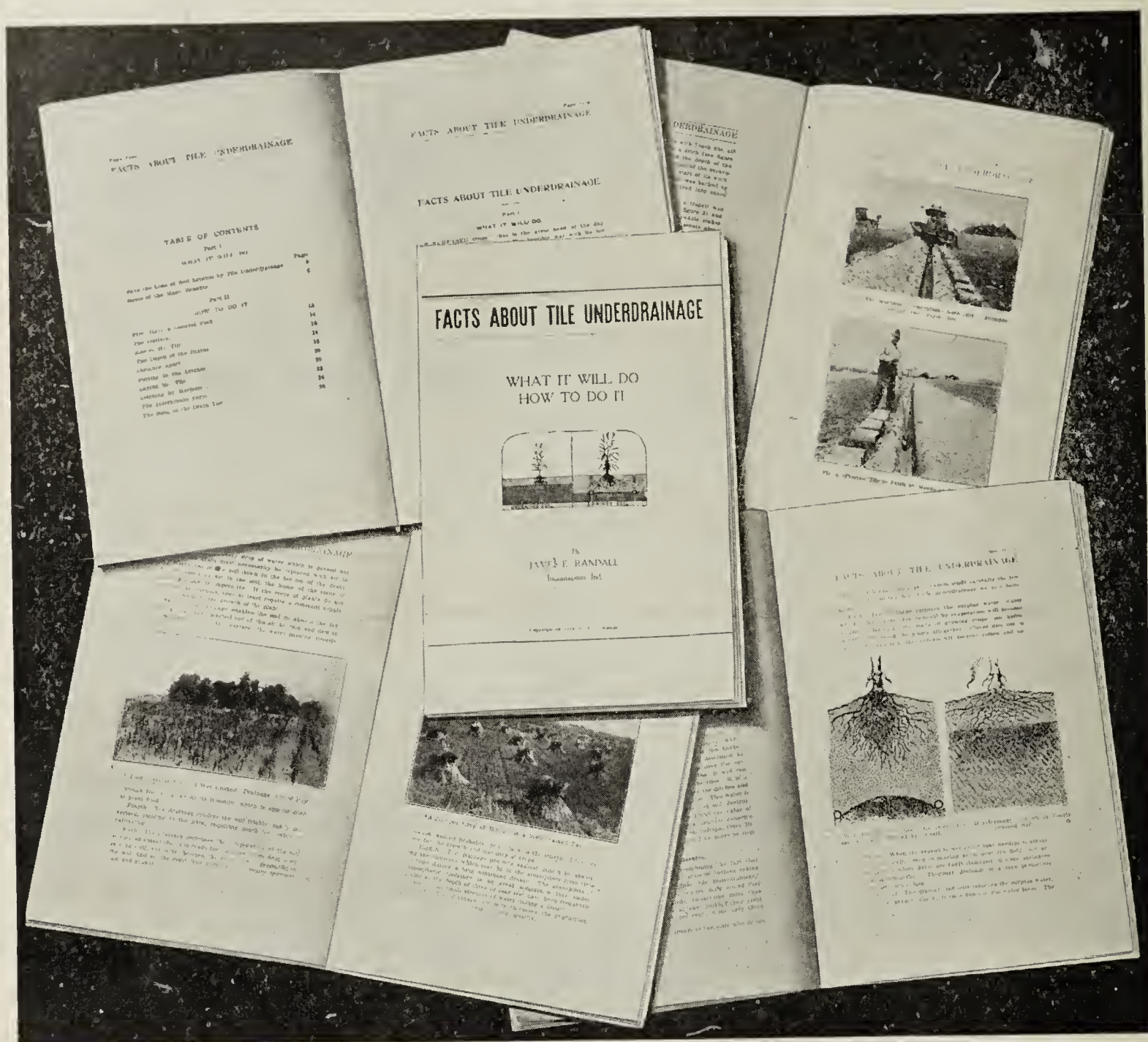
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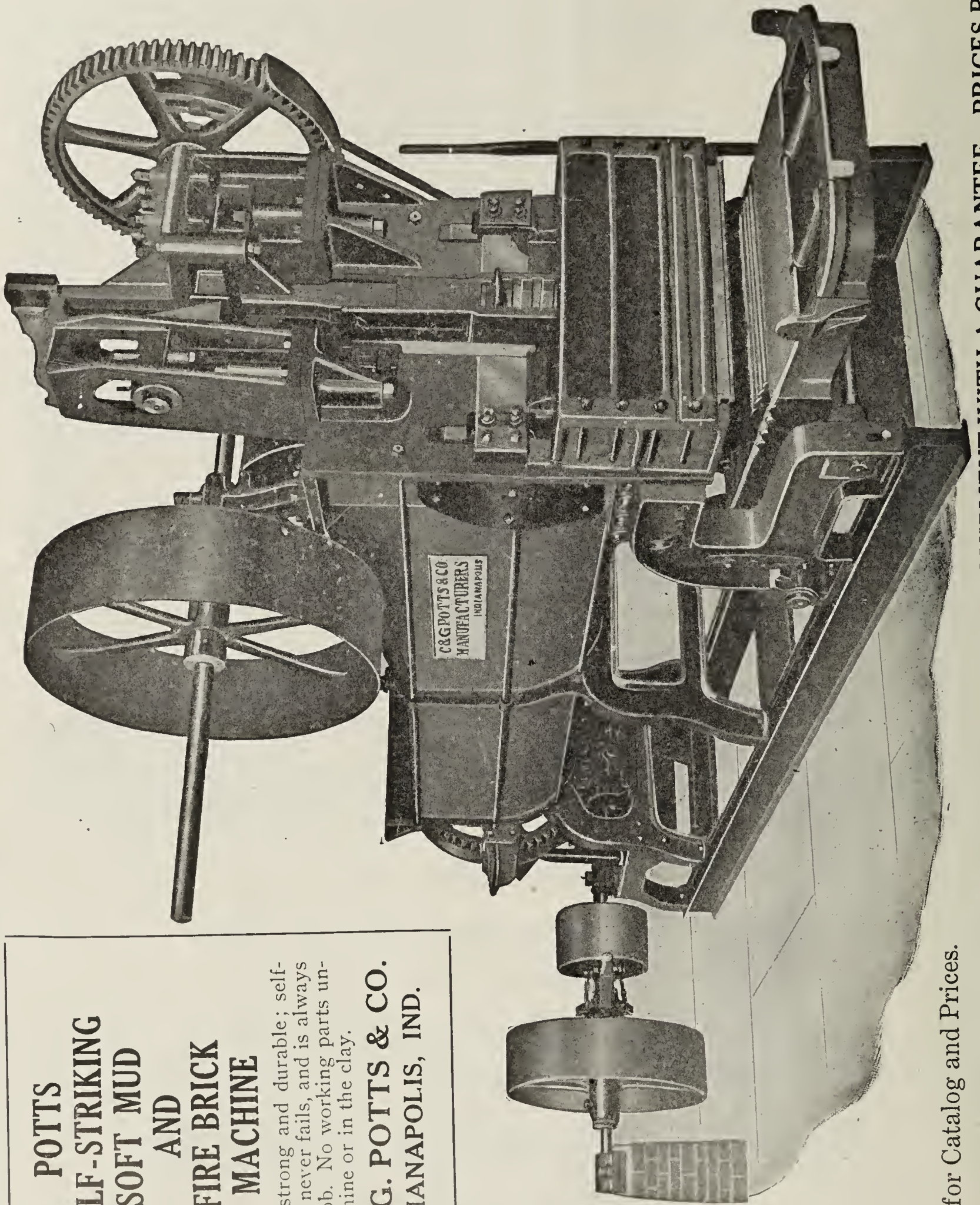
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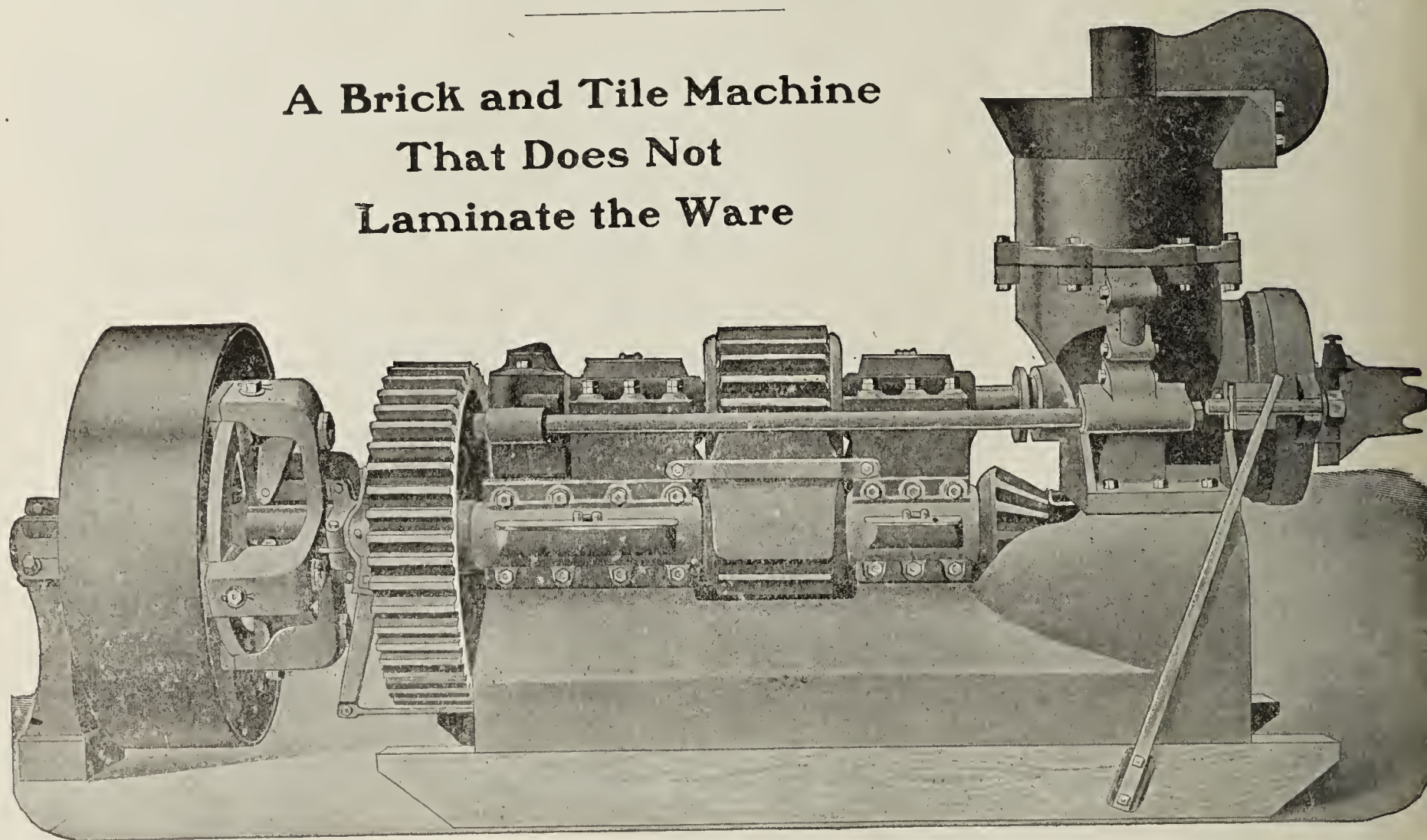


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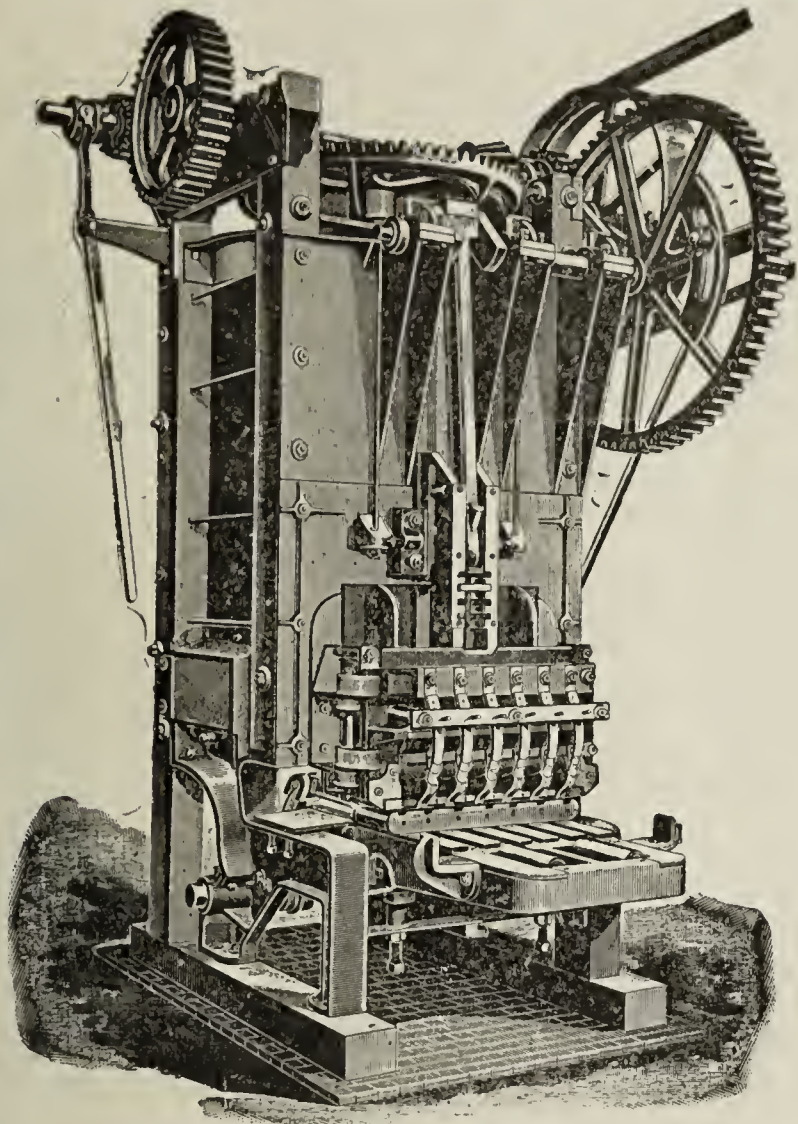
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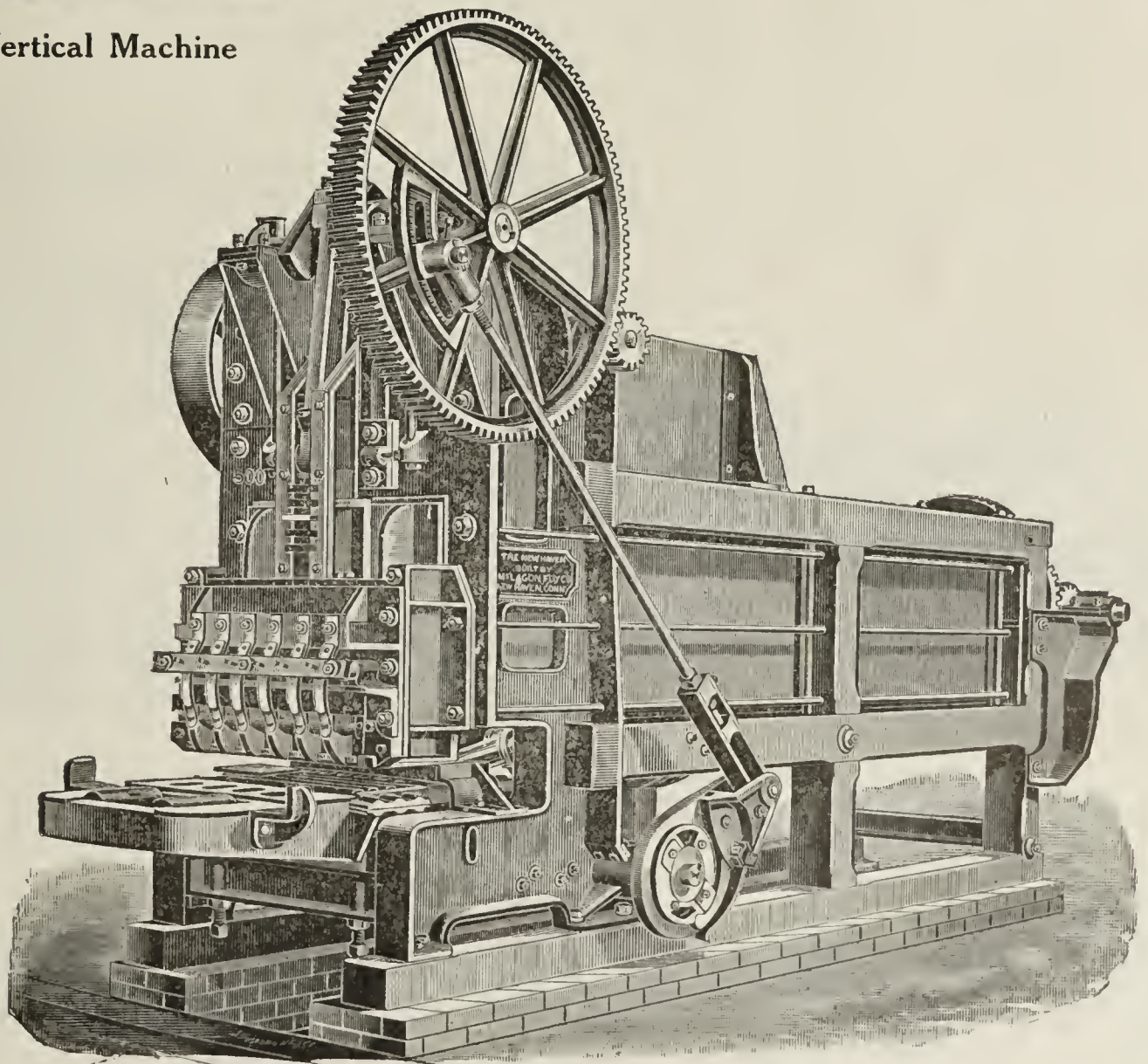
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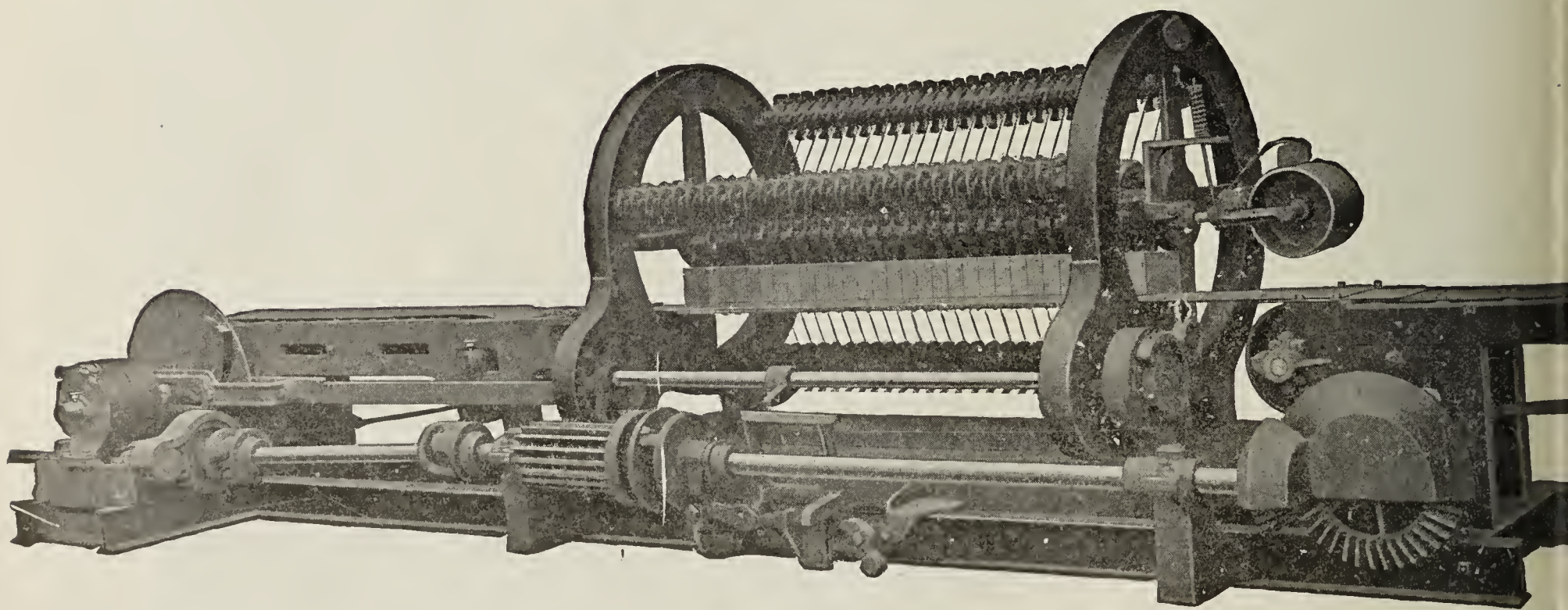
You can install the cutter expecting **immediate** results—There are practically no adjustments to make when starting a Freese Cutter.

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The Fate-Root-Heath Co., <sup>Plymouth,</sup>  
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# PLYMOUTH

*Gasoline Locomotives*



PLYMOUTH

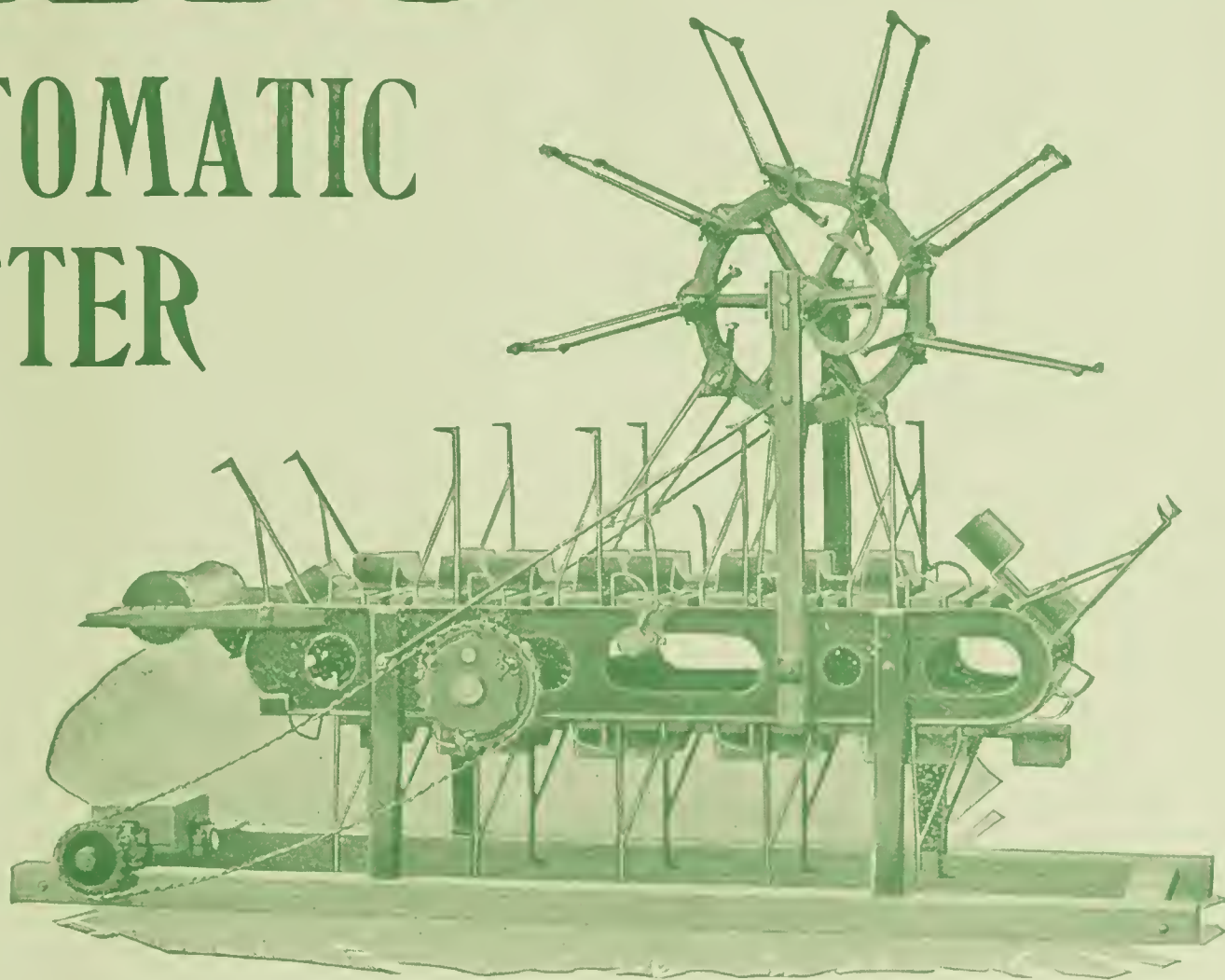
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## CLAY-WORKING MACHINERY

Honor Built For The Ages

### AUTOMATIC CUTTER

TYPE  
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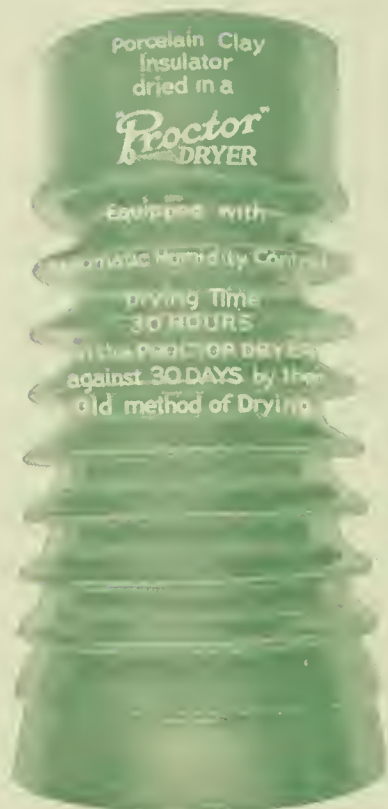
This Cutter may be supplied with double stream scoops for 3 and 4-inch drain tile. Made also with flat platens for building tile. Cuts column of clay 10 inches high and 11- $\frac{1}{2}$  inches wide. May be built 2 inches wider than regular, thus cutting 13- $\frac{1}{2}$  wide. Regular length cut is 13 inches, but built for any length from 10 to 18 inches.

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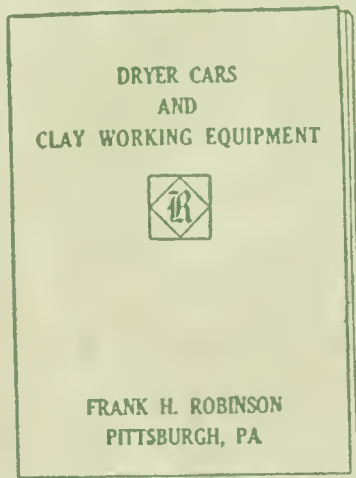
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